

FIG. 2



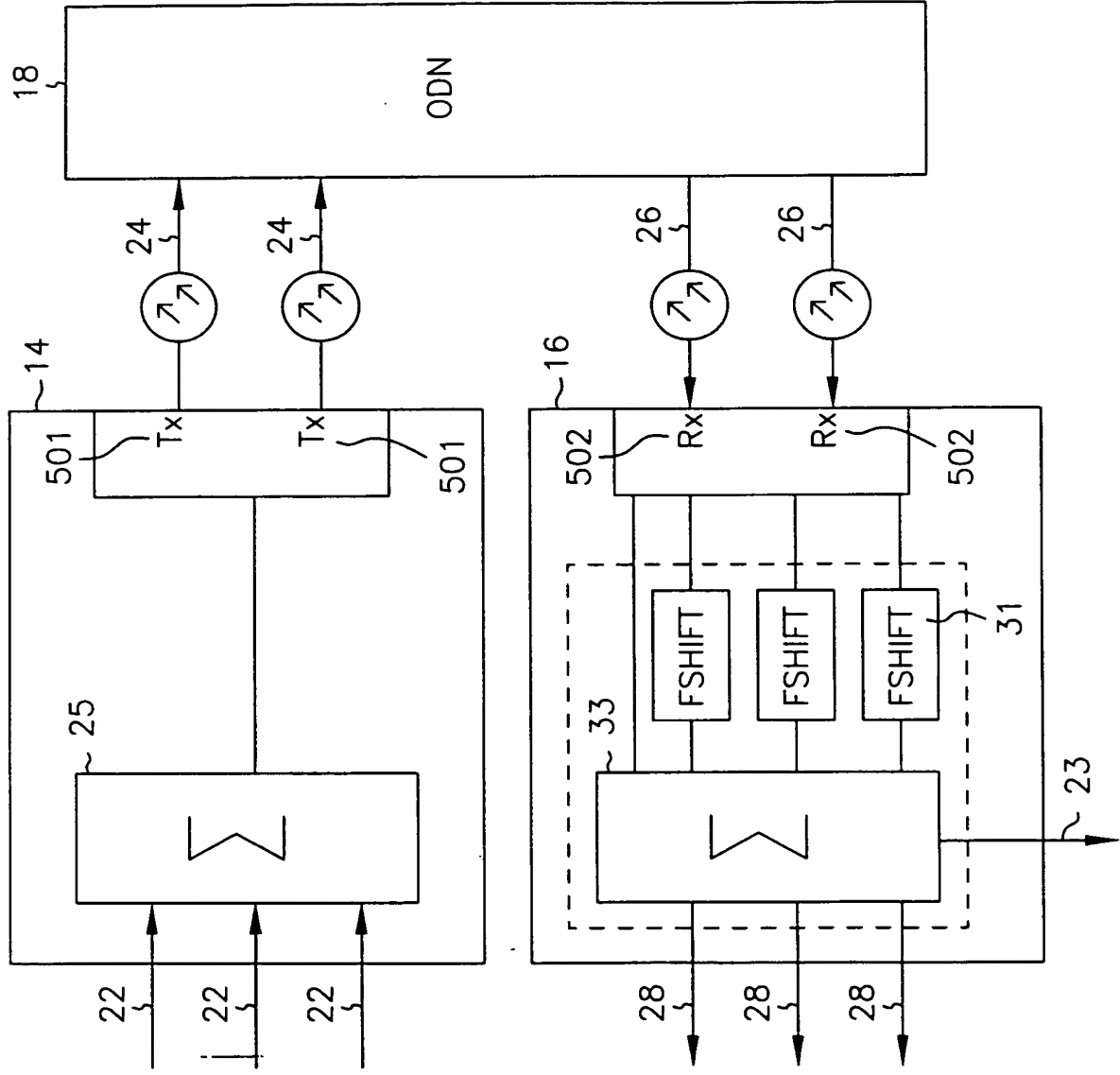


FIG. 4

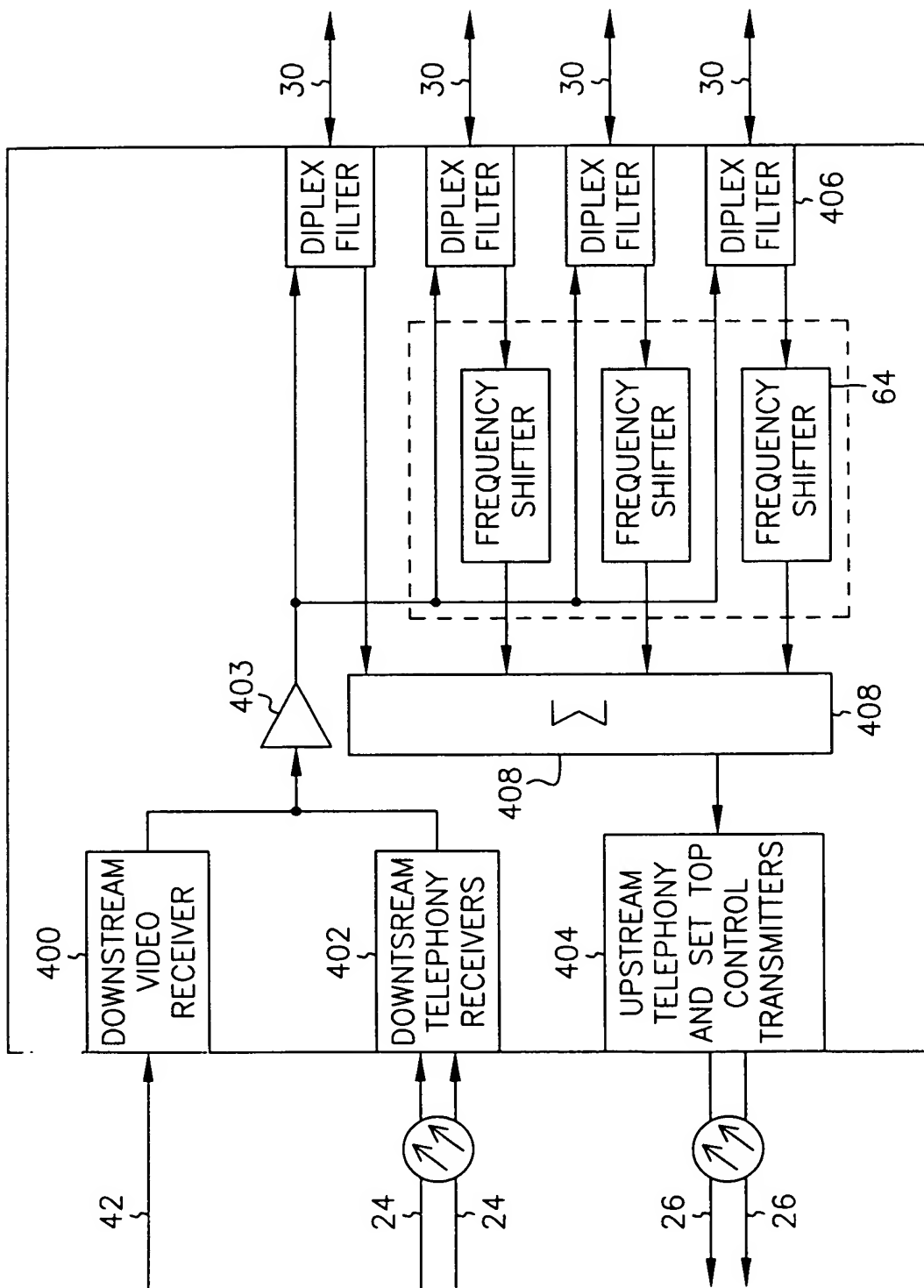


FIG. 5

FIG. 6

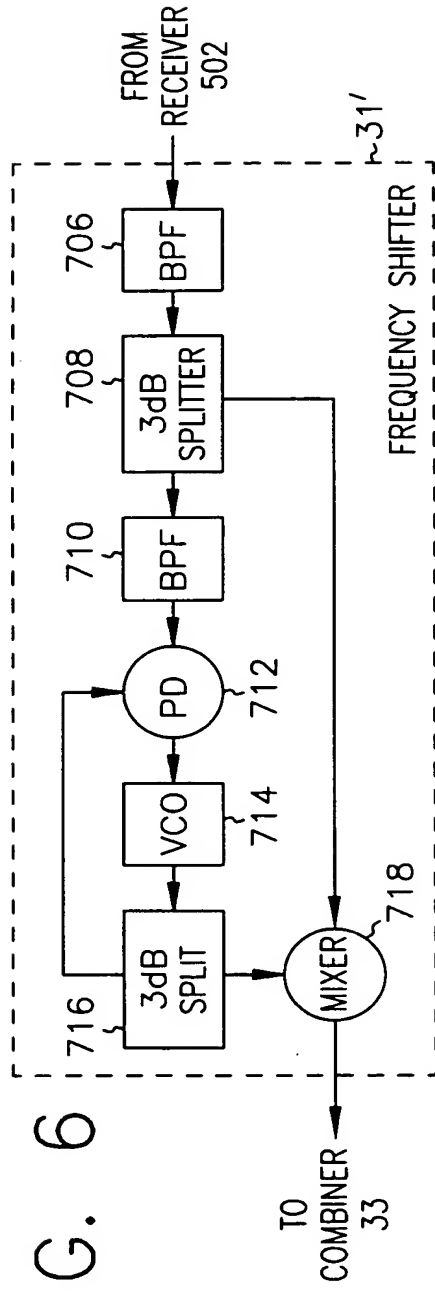
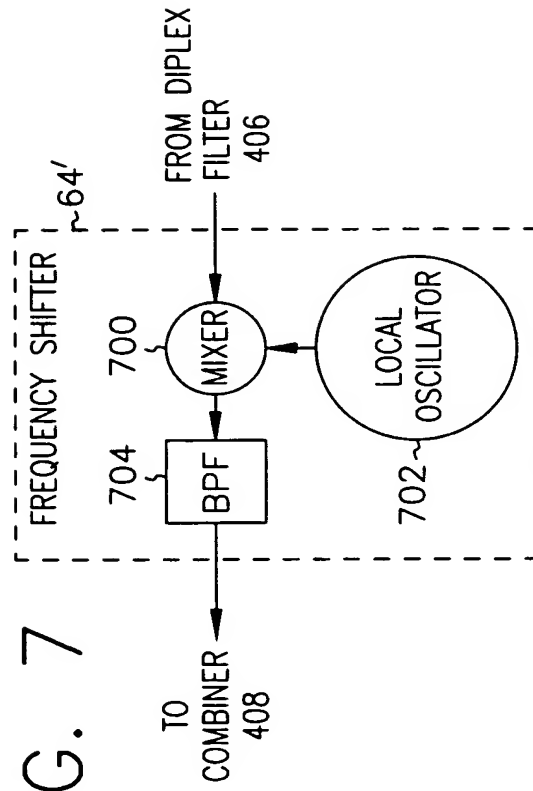


FIG. 7



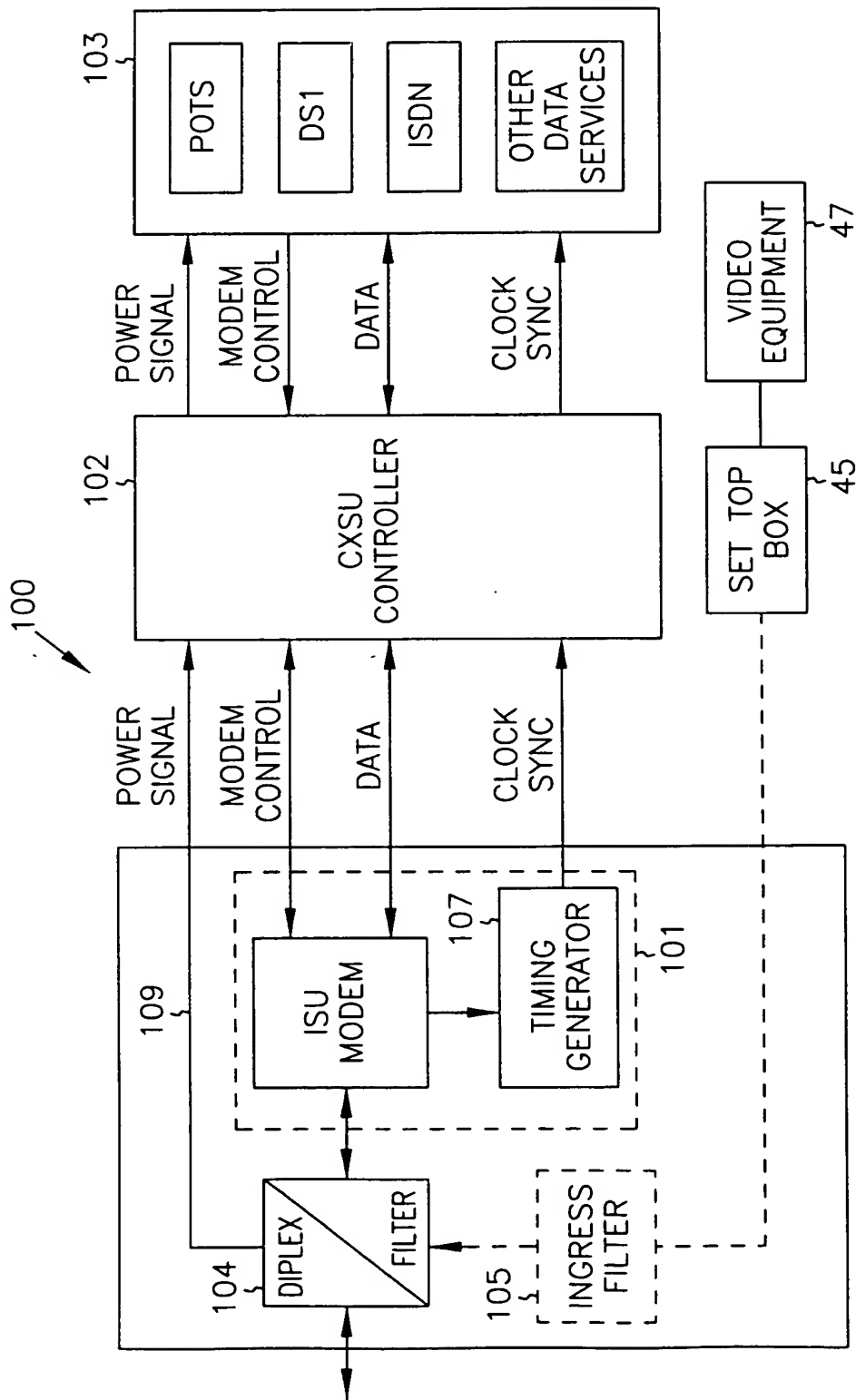


FIG. 8

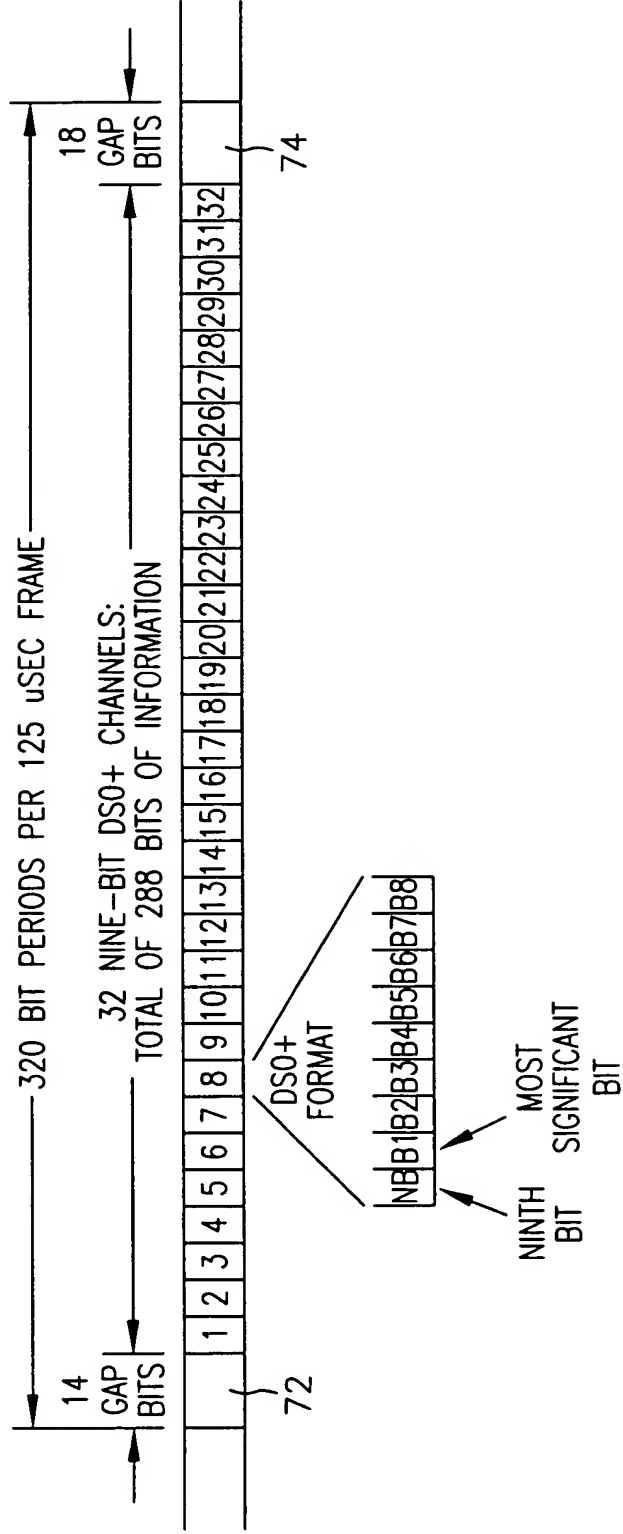


FIG. 9



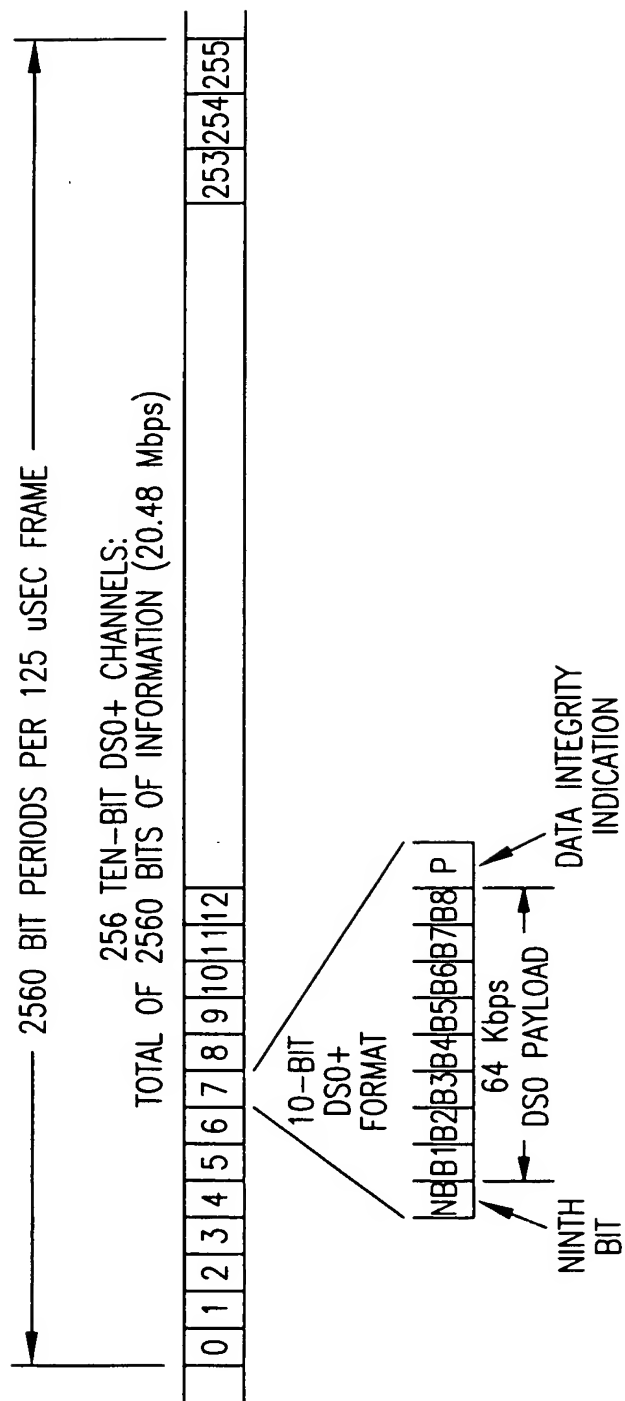
[illegible]

FIG. 10

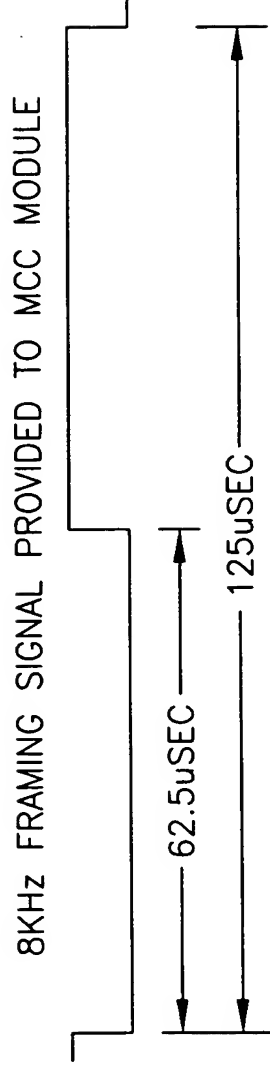


FIG. 11

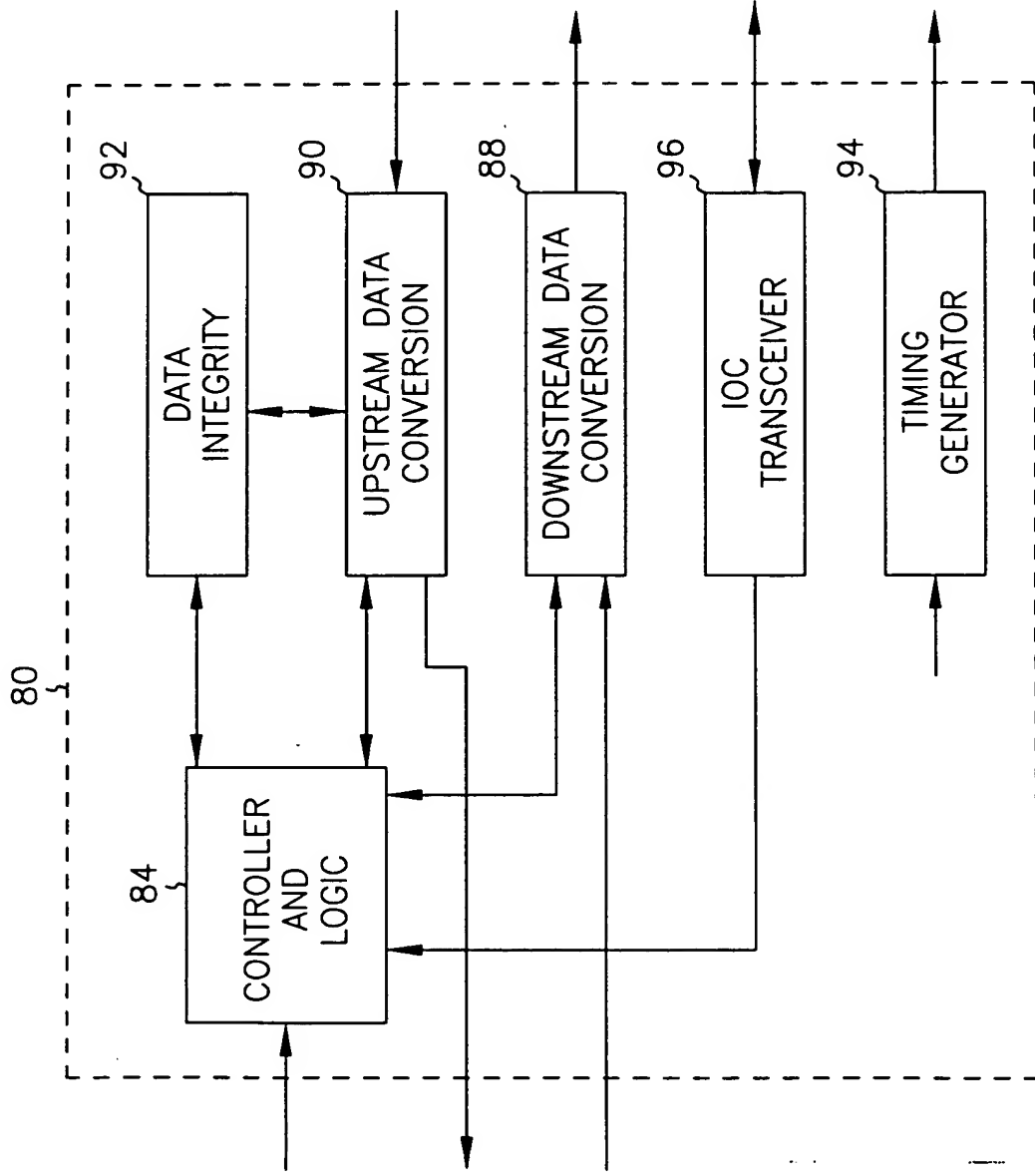


FIG. 12

FIG. 13

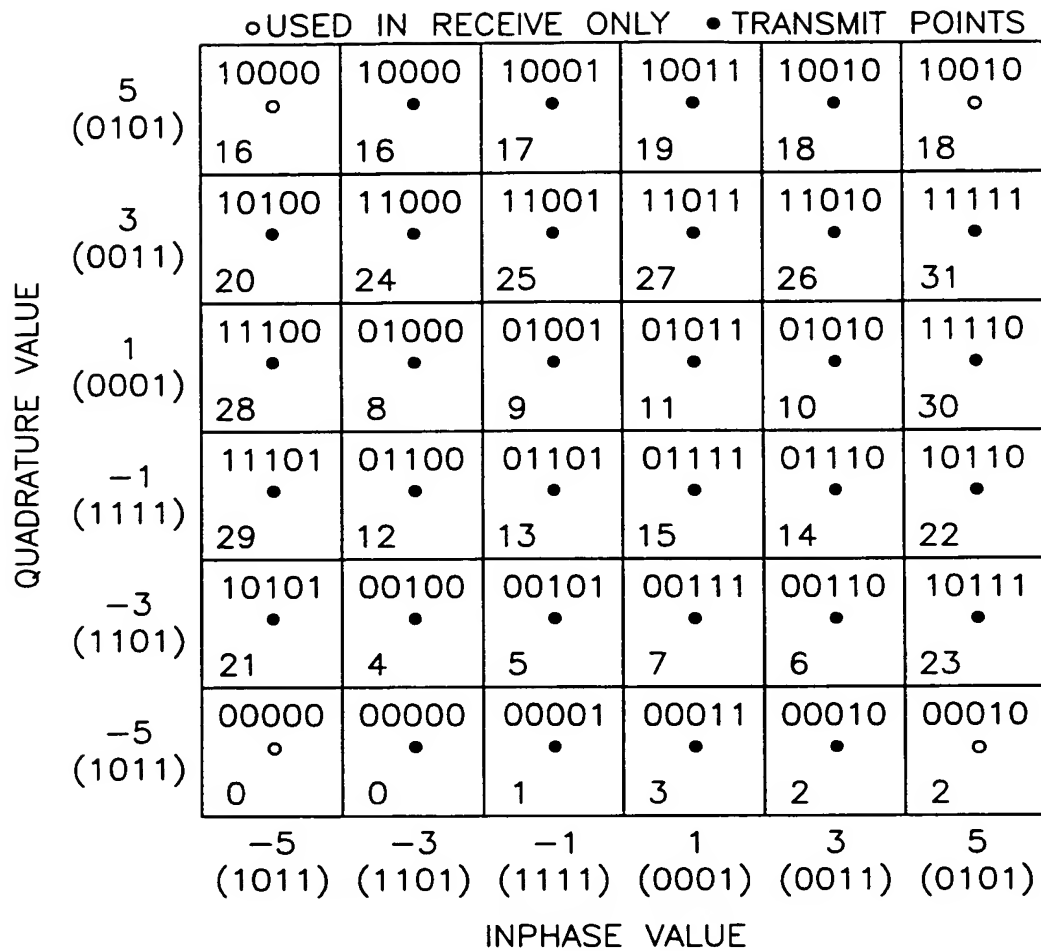


FIG. 14

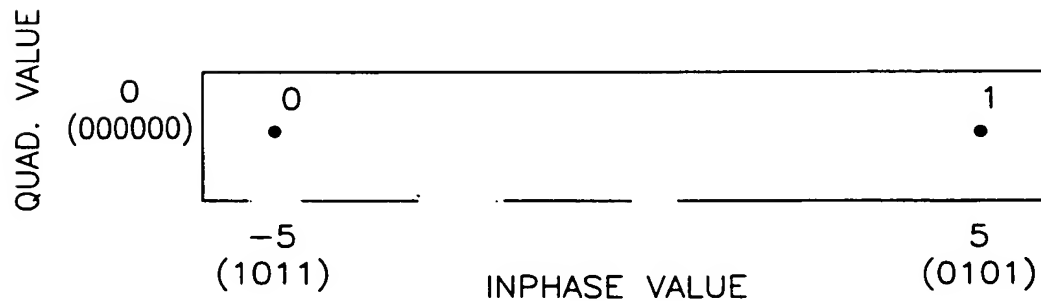


FIG. 15

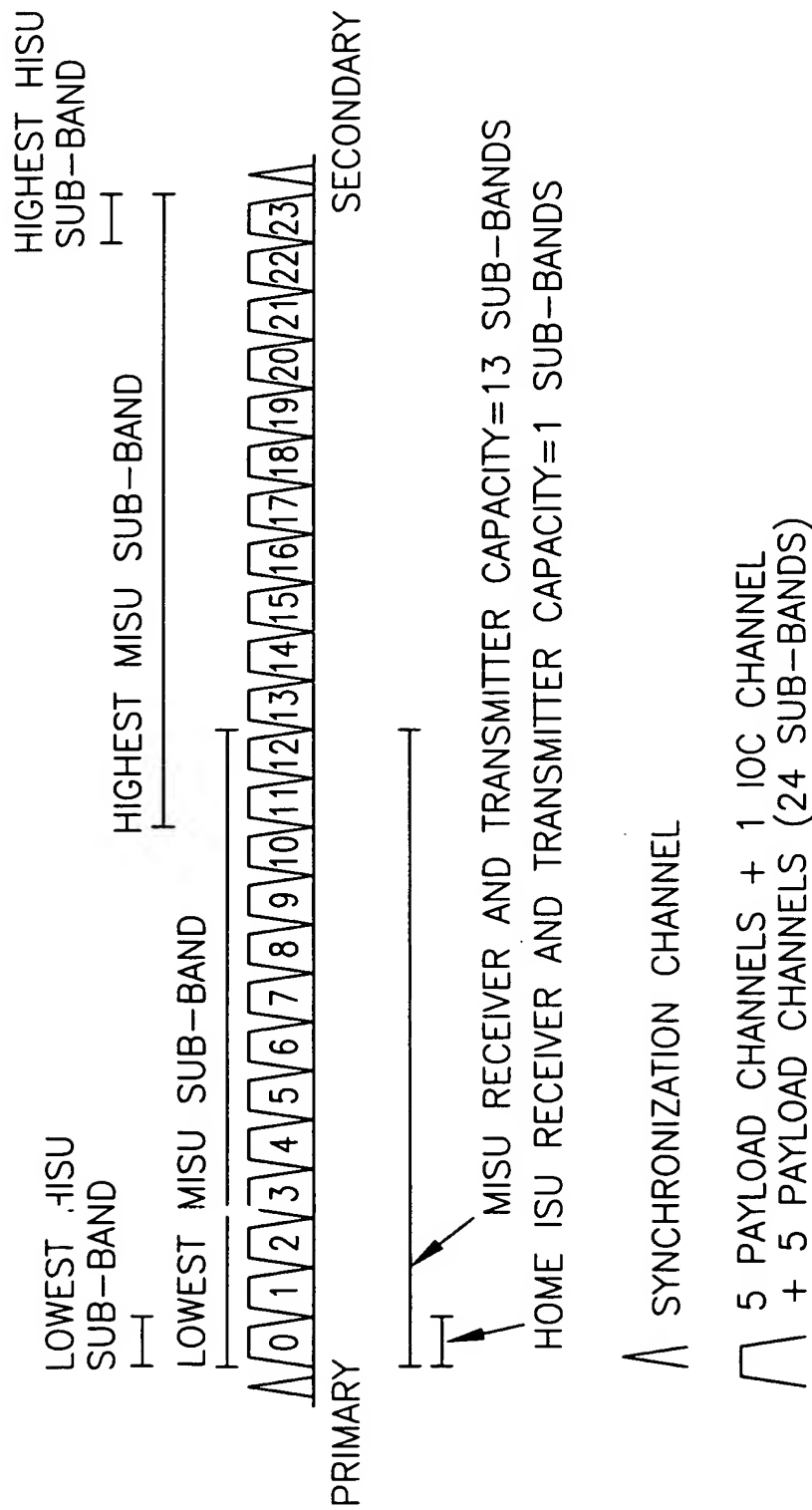


FIG. 16

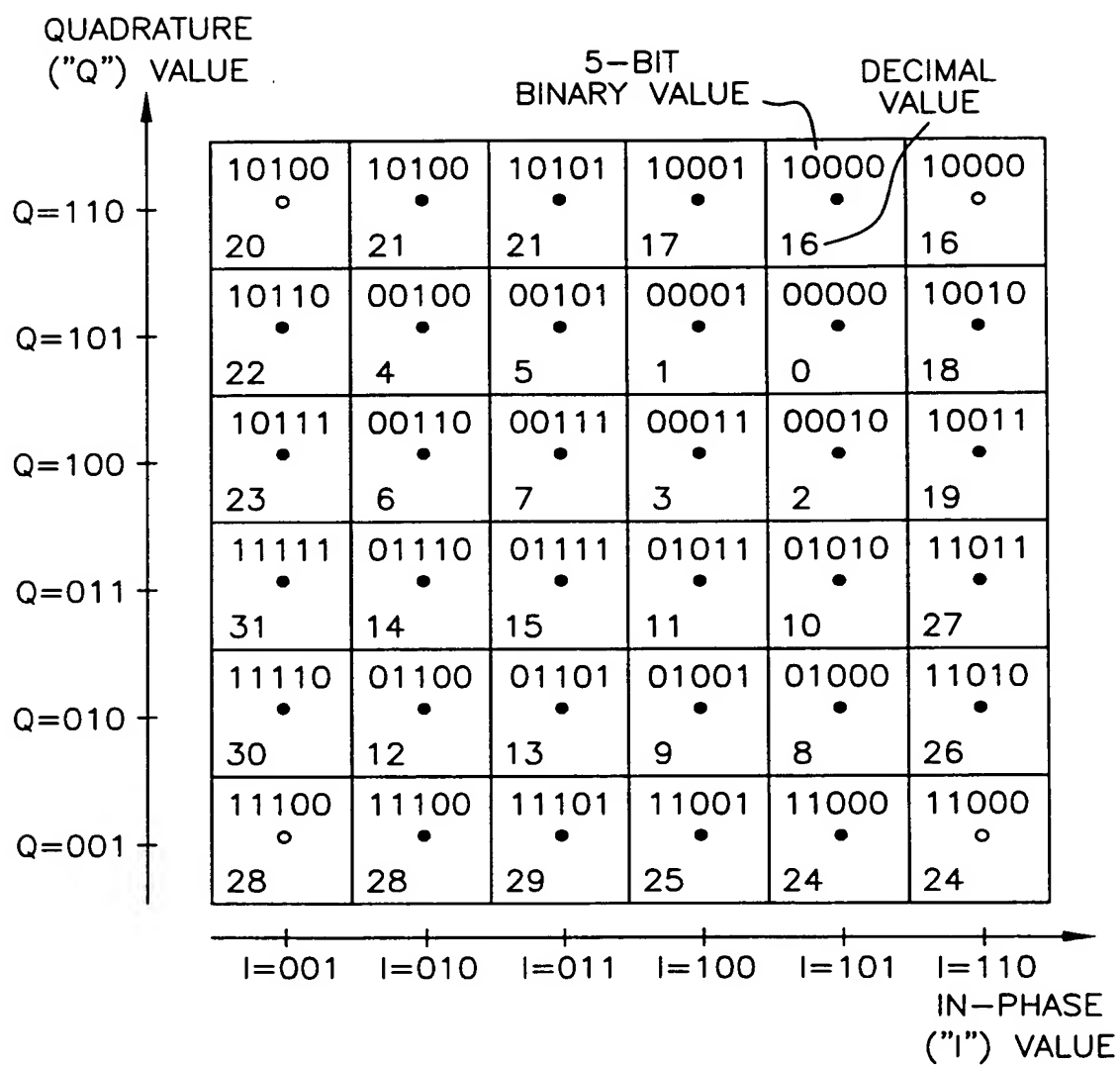


FIG. 17

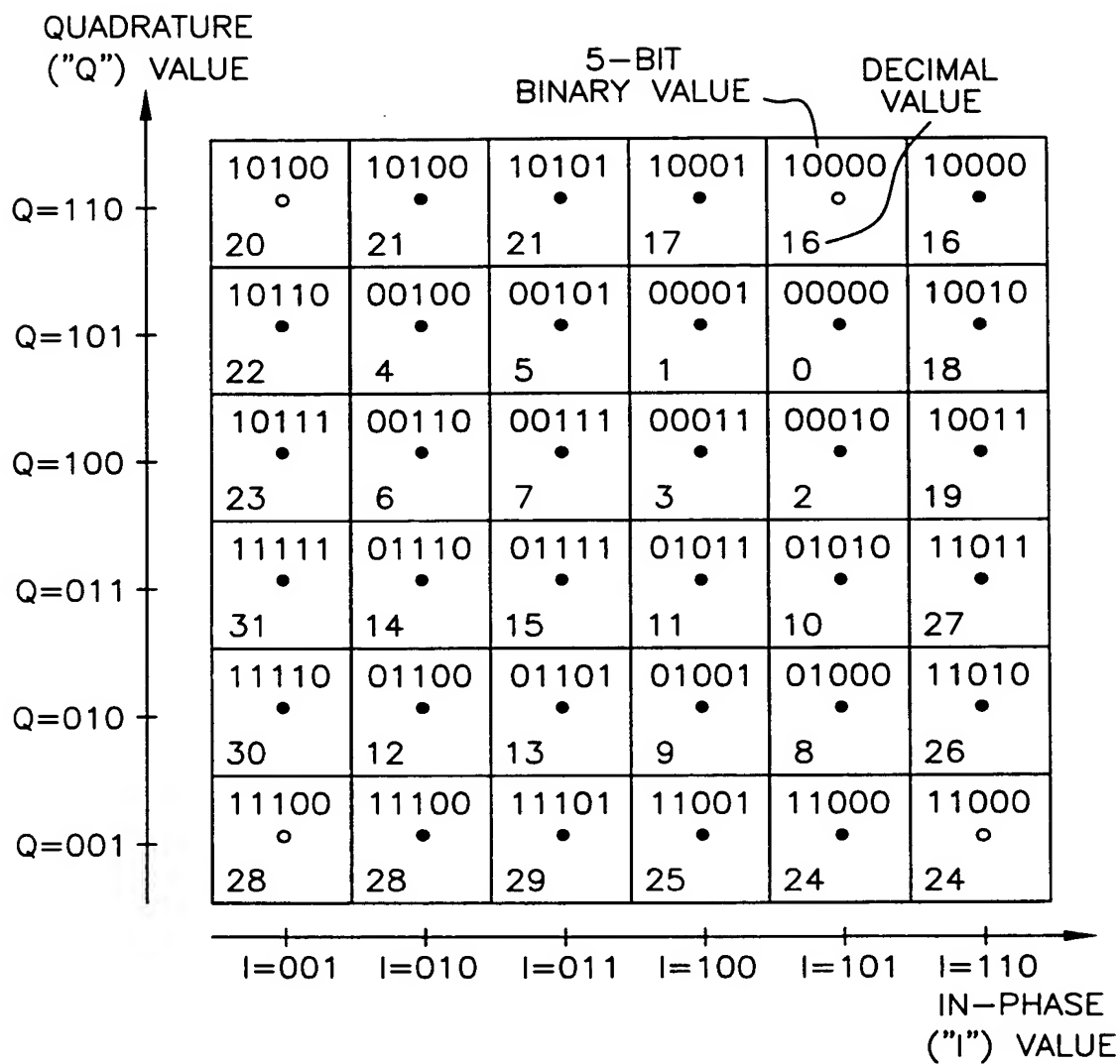


FIG. 18



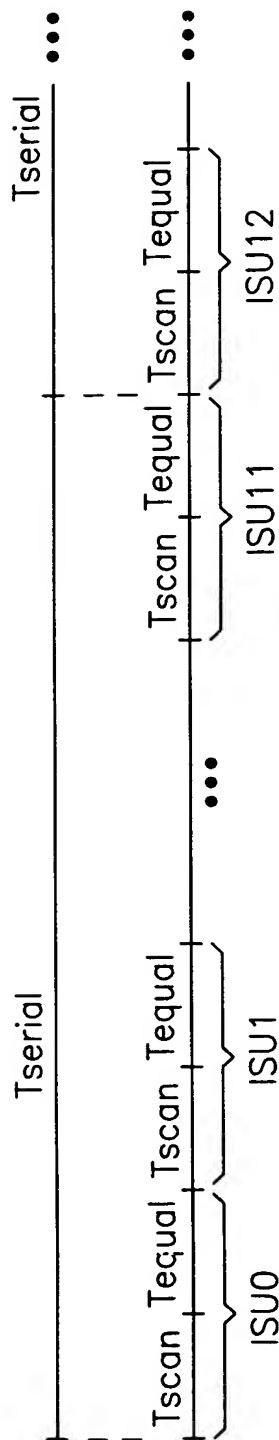


FIG. 19

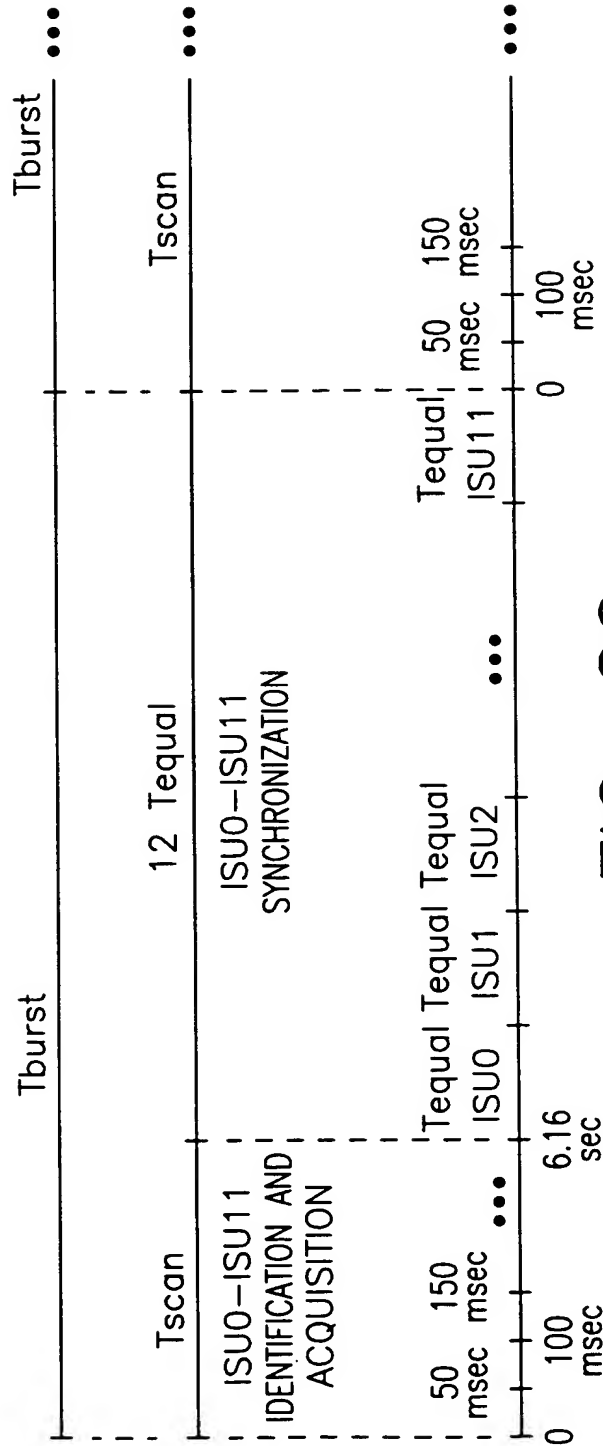


FIG. 20

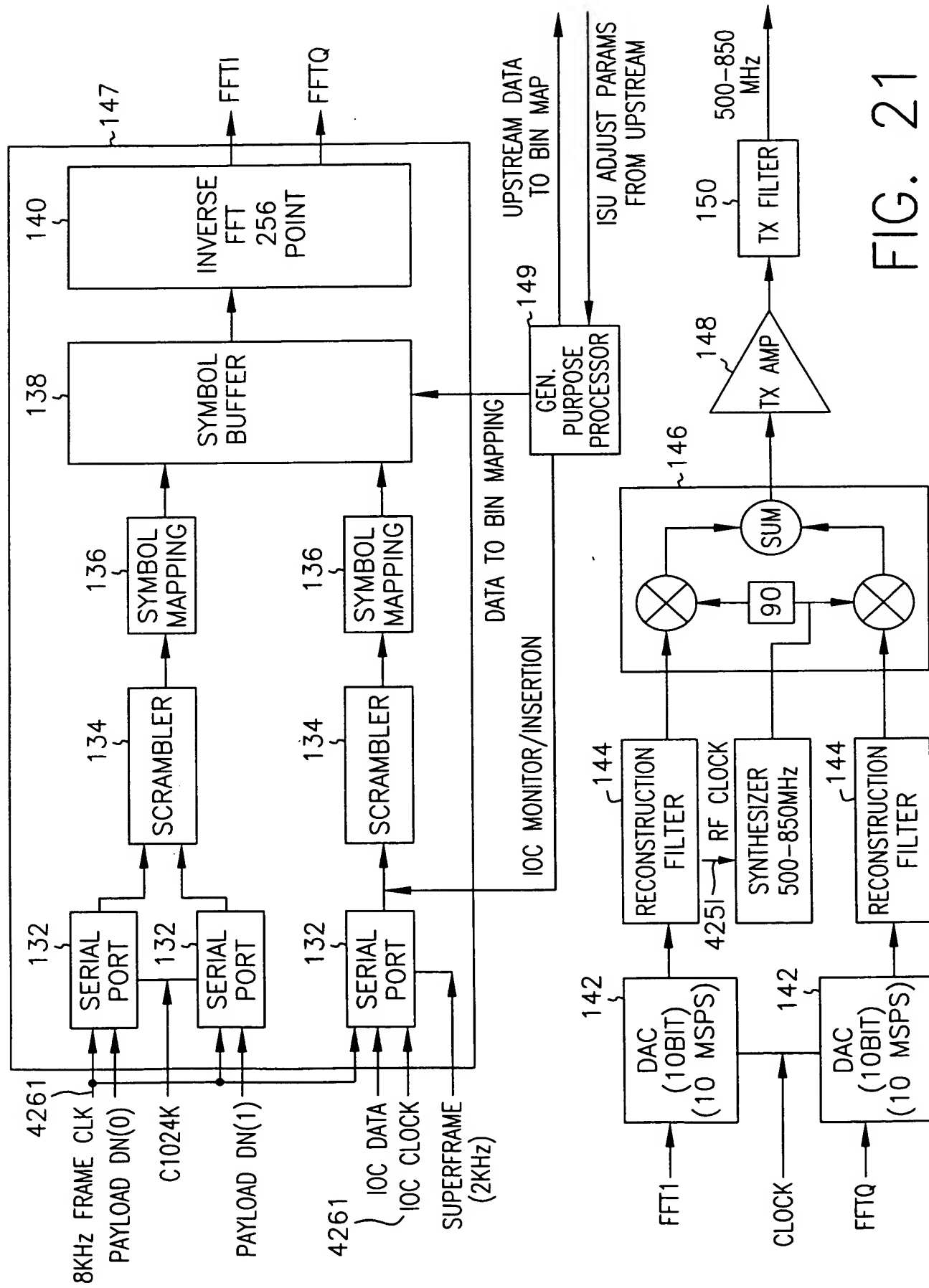


FIG. 21

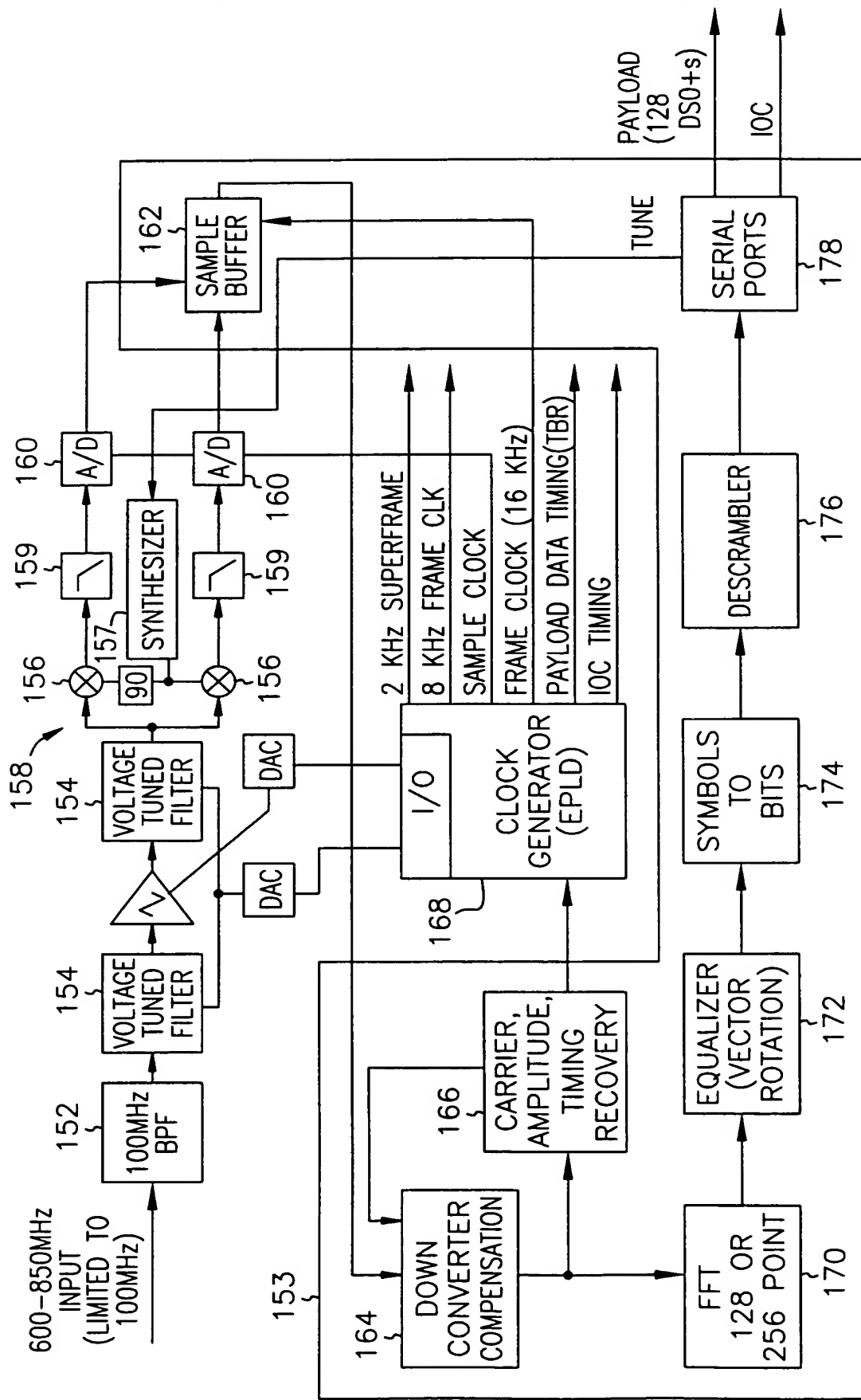


FIG. 22

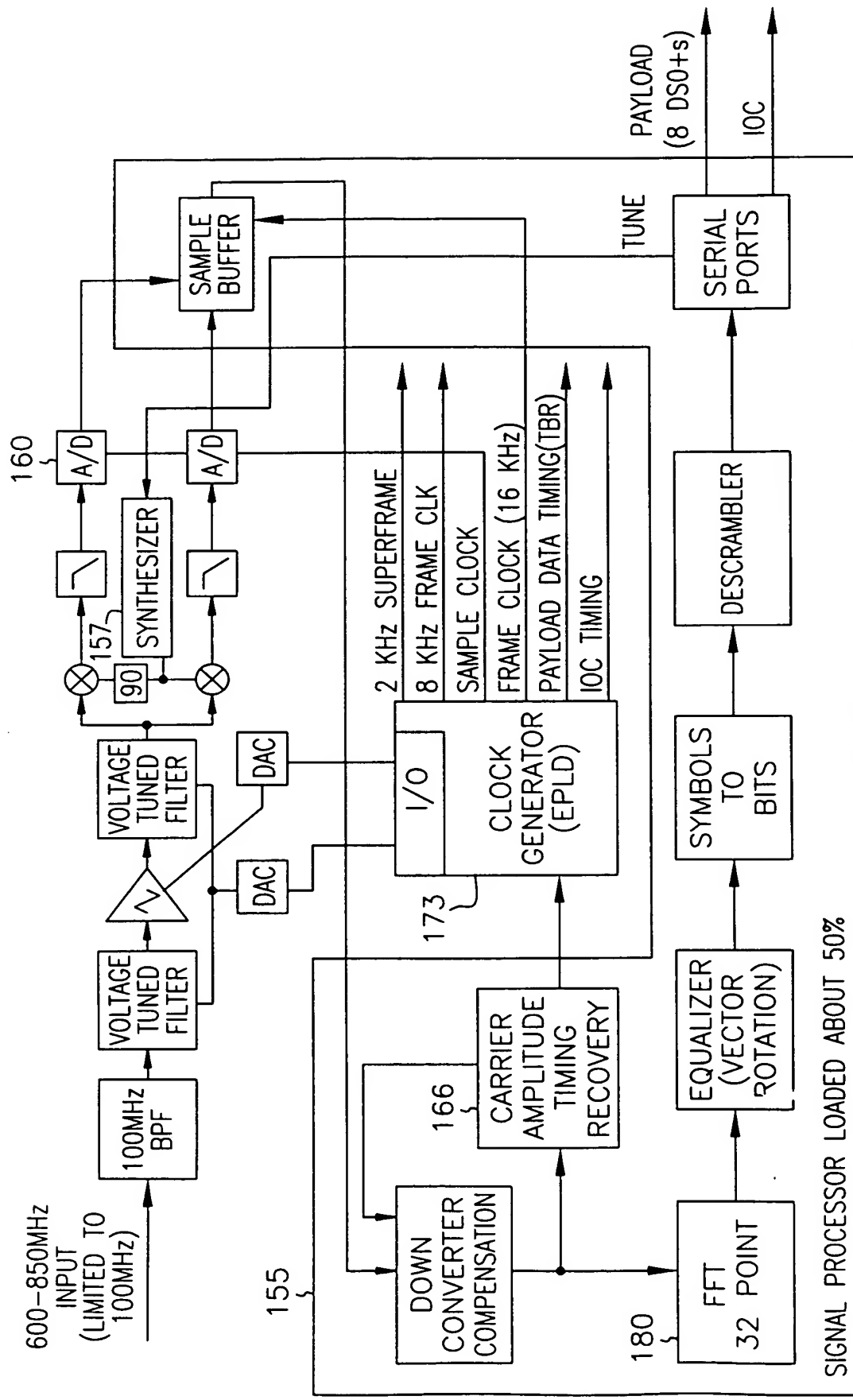


FIG. 23

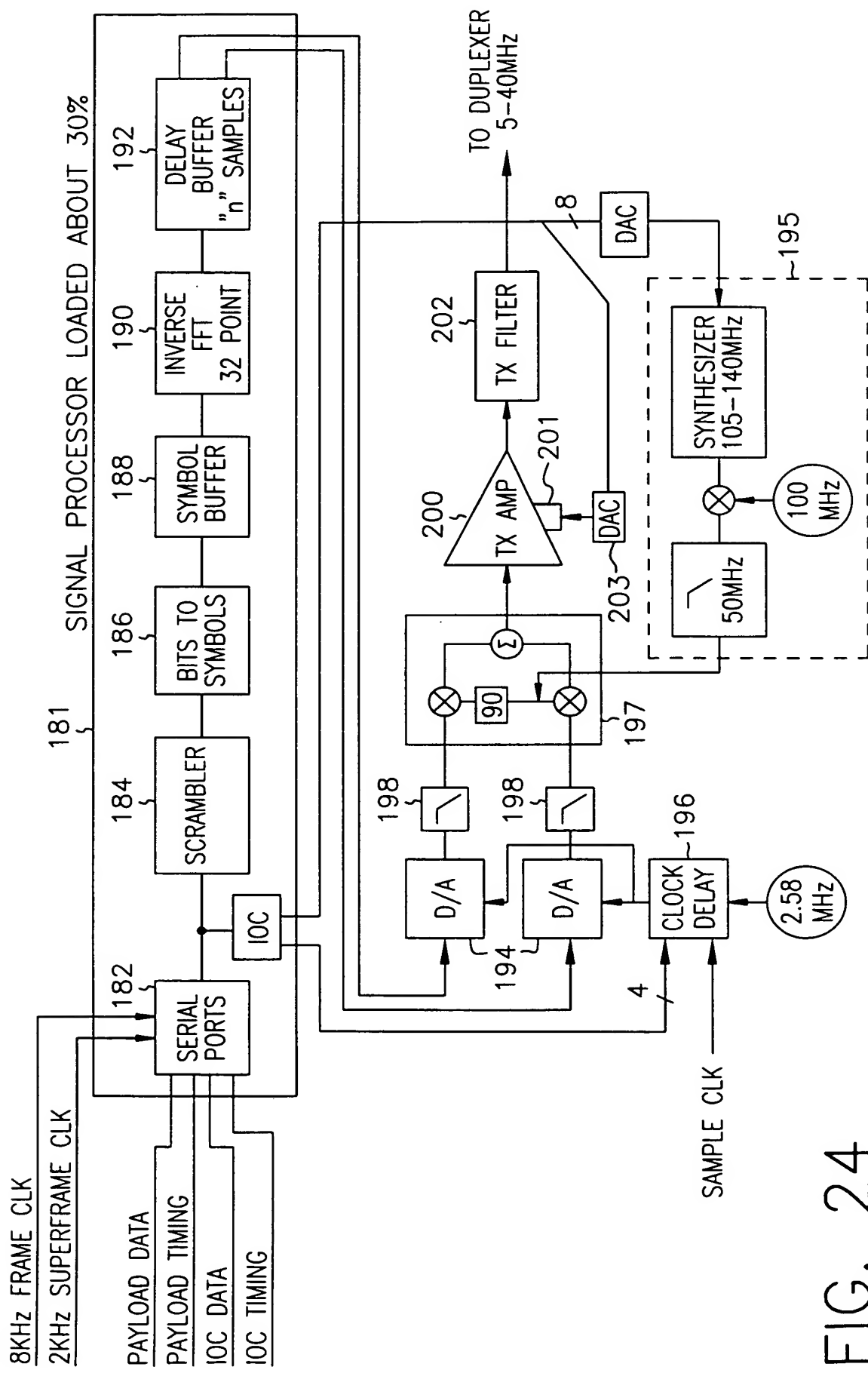


FIG. 24

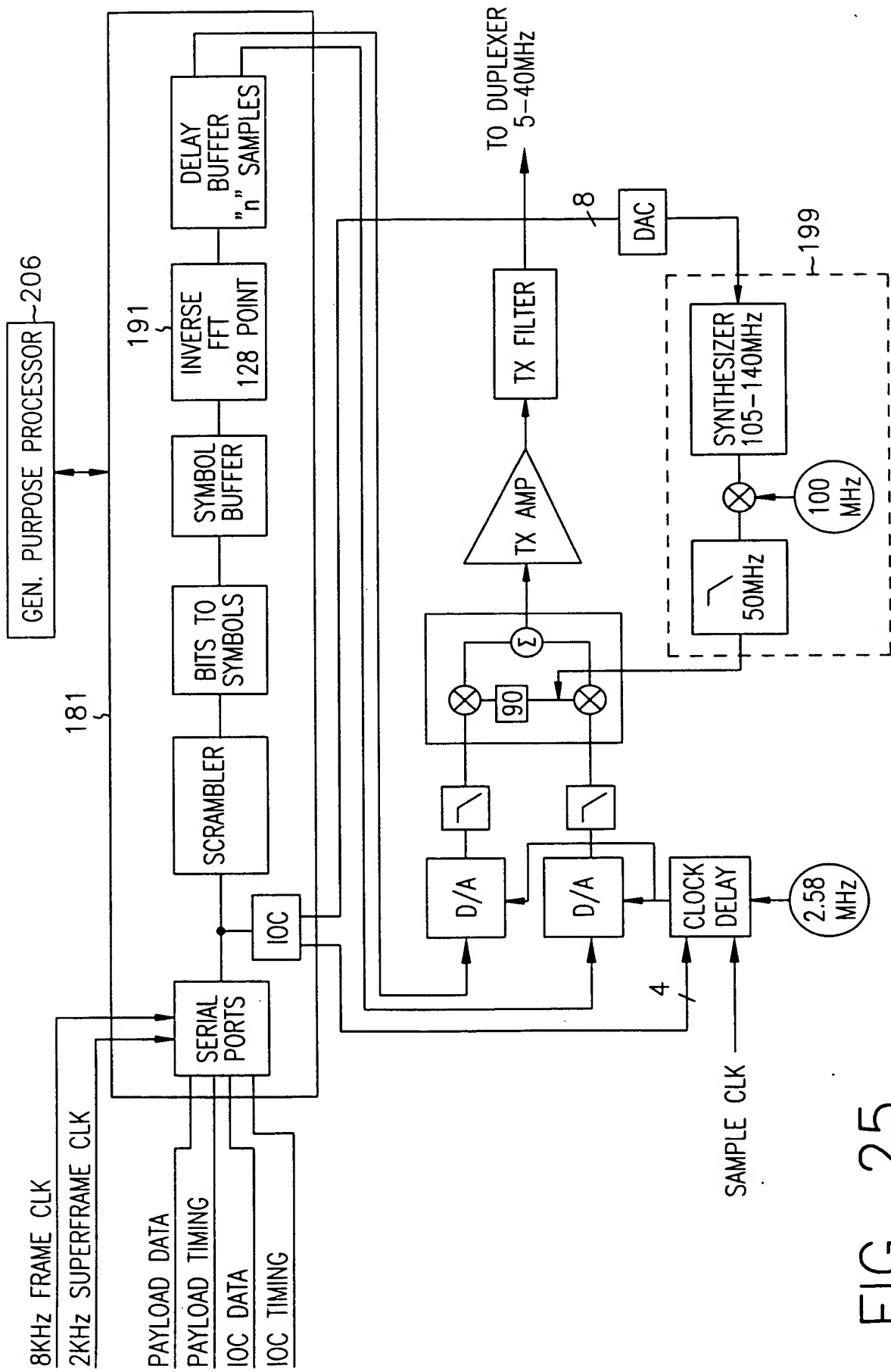


FIG. 25

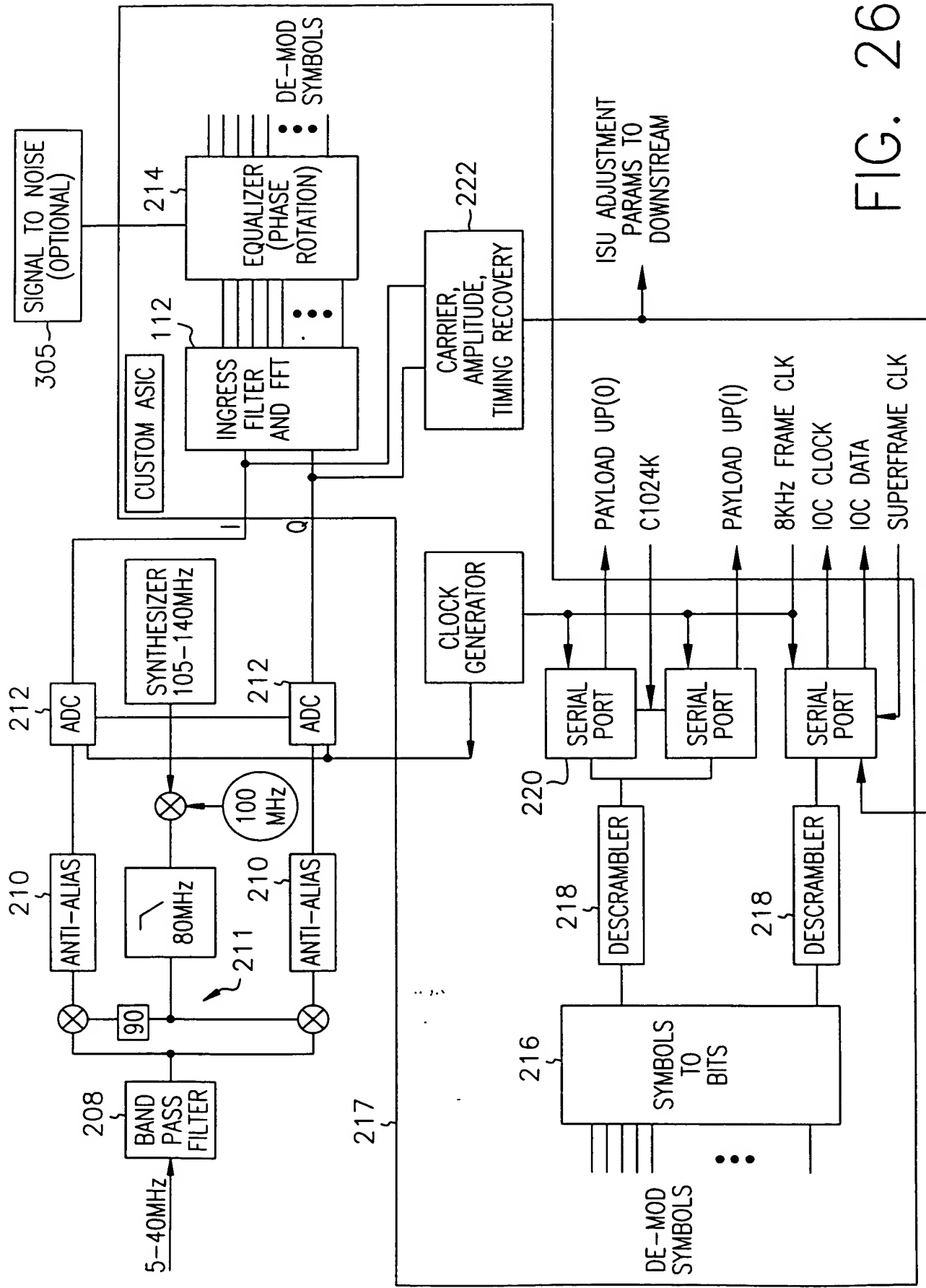


FIG. 26

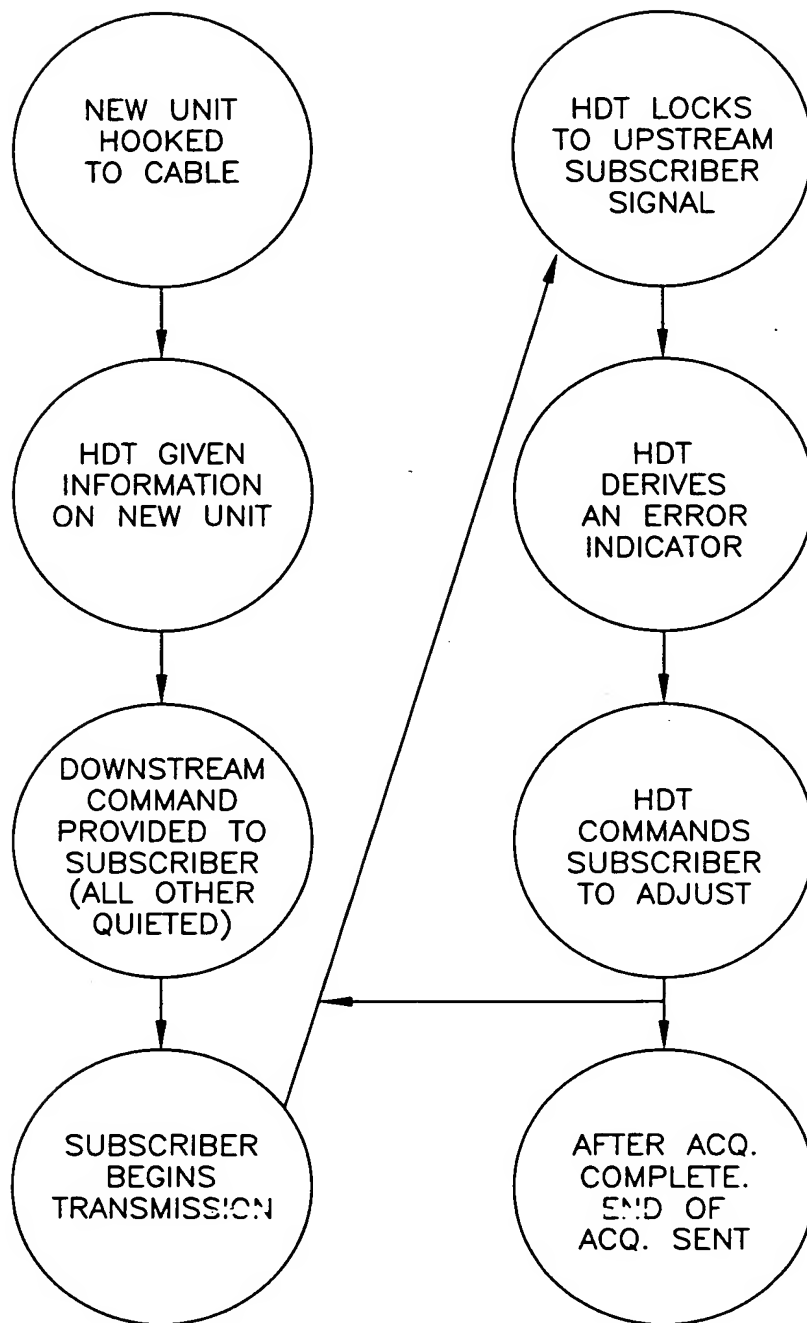


FIG. 27



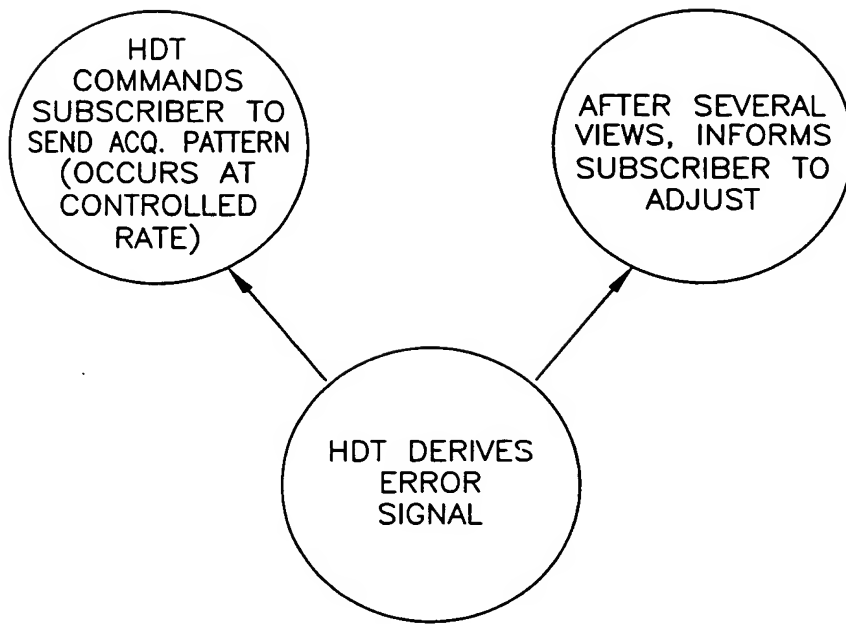


FIG. 28

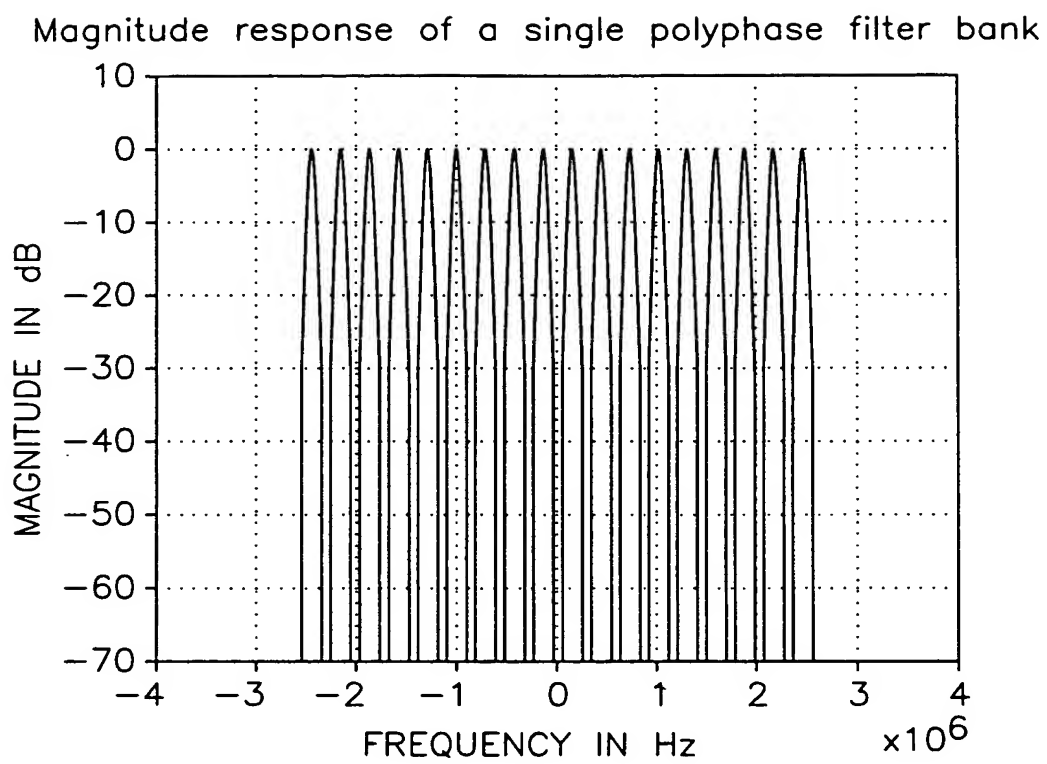


FIG. 29

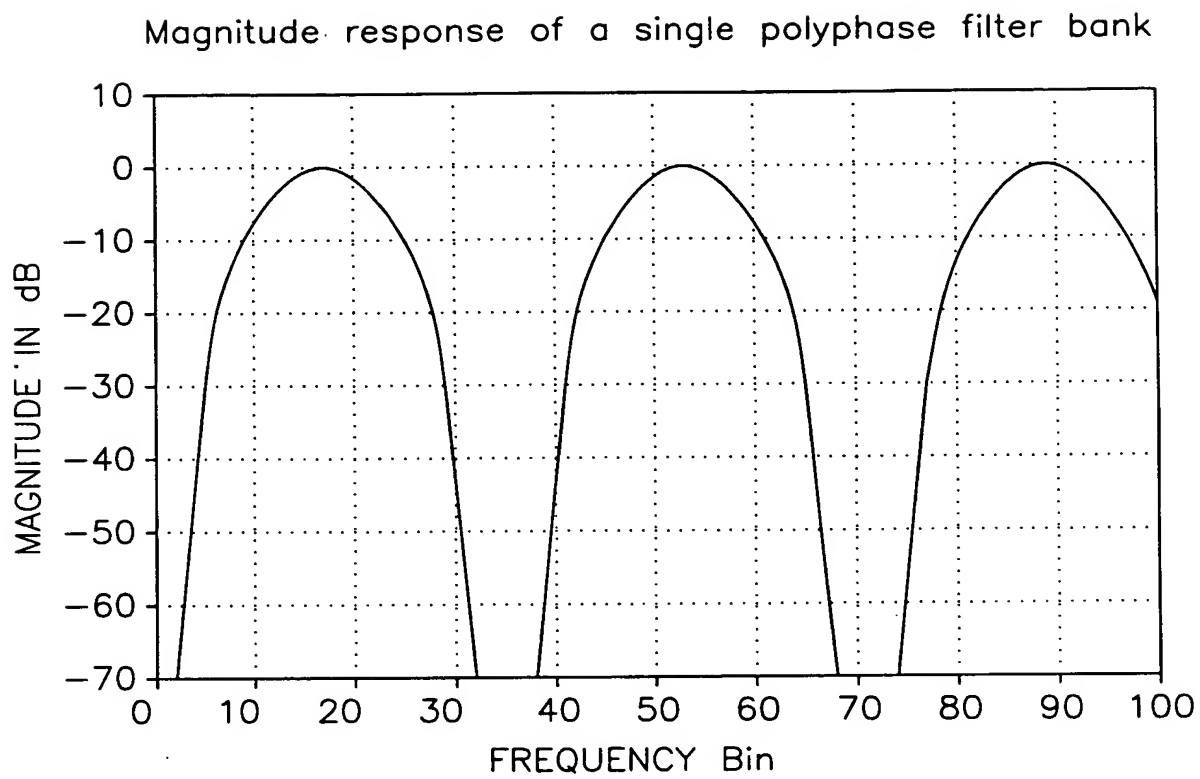


FIG. 30

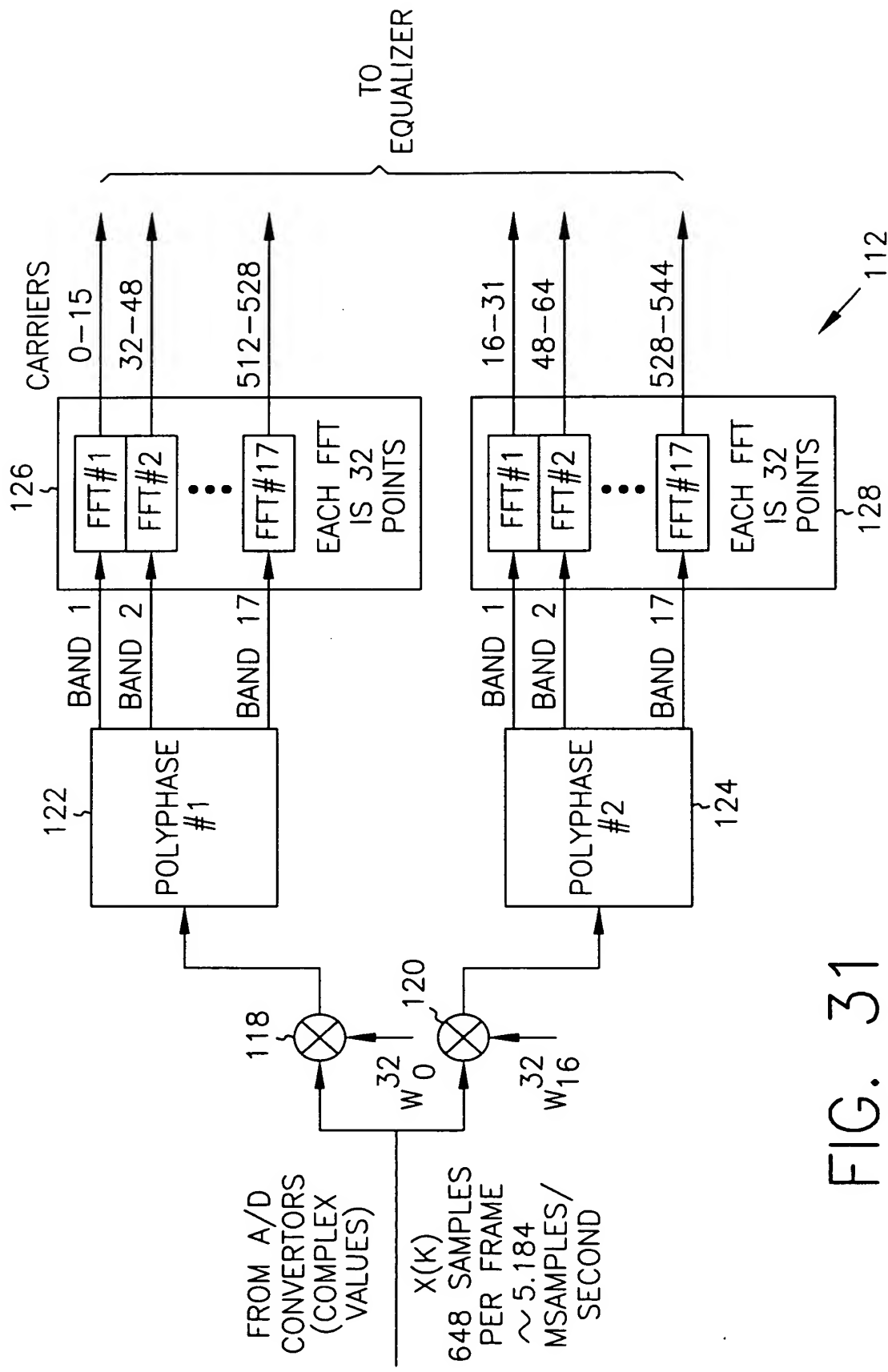


FIG. 31

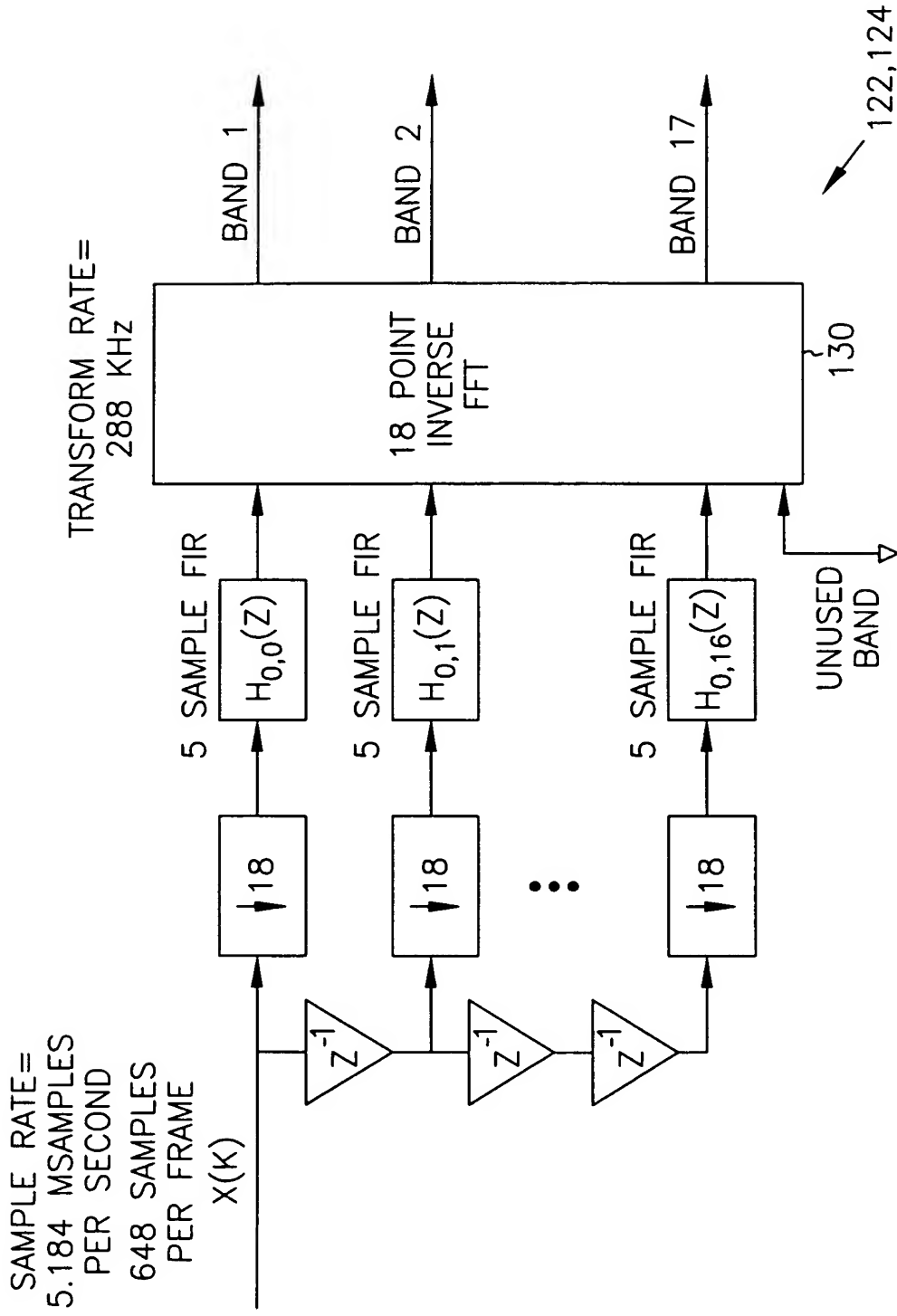
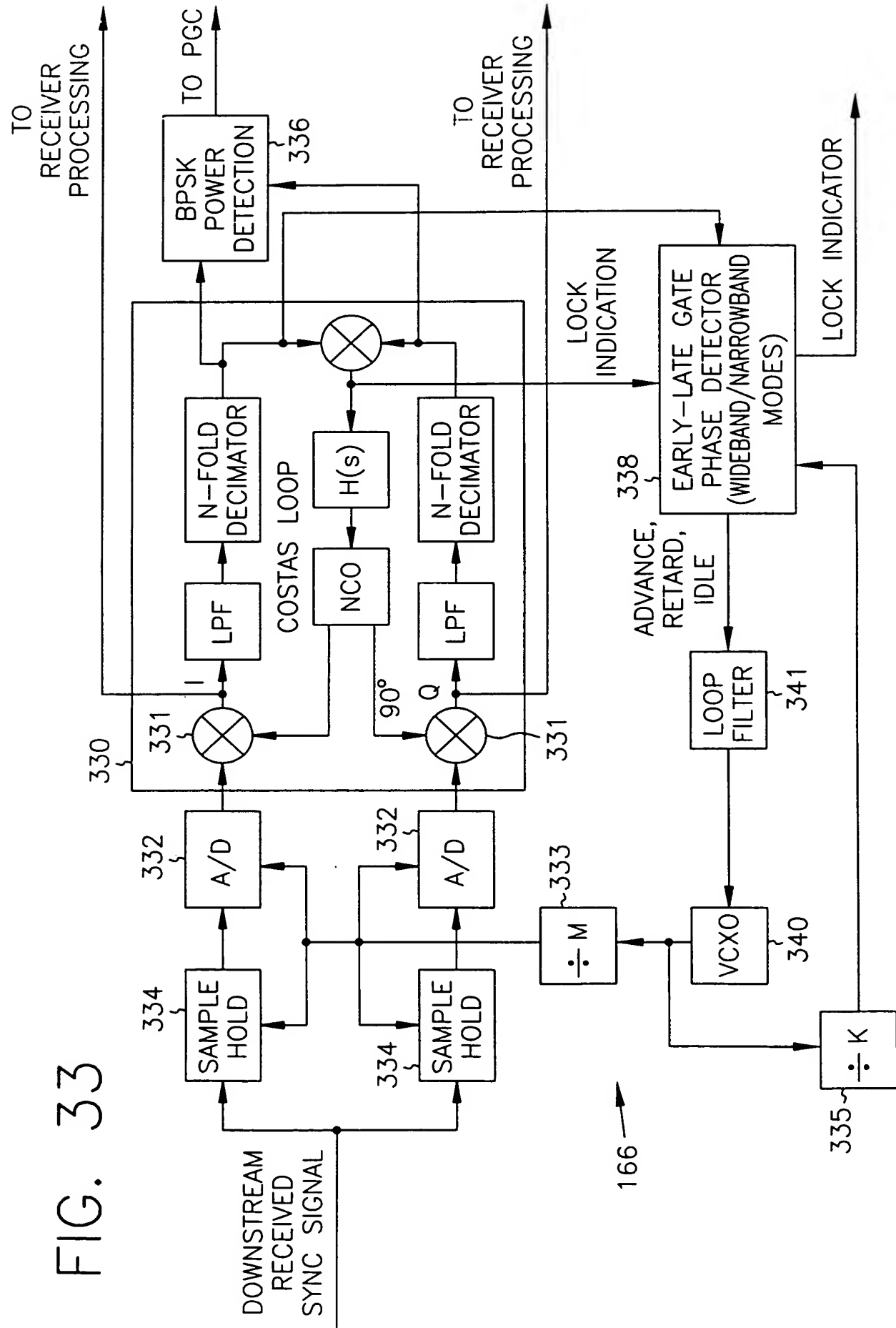


FIG. 32





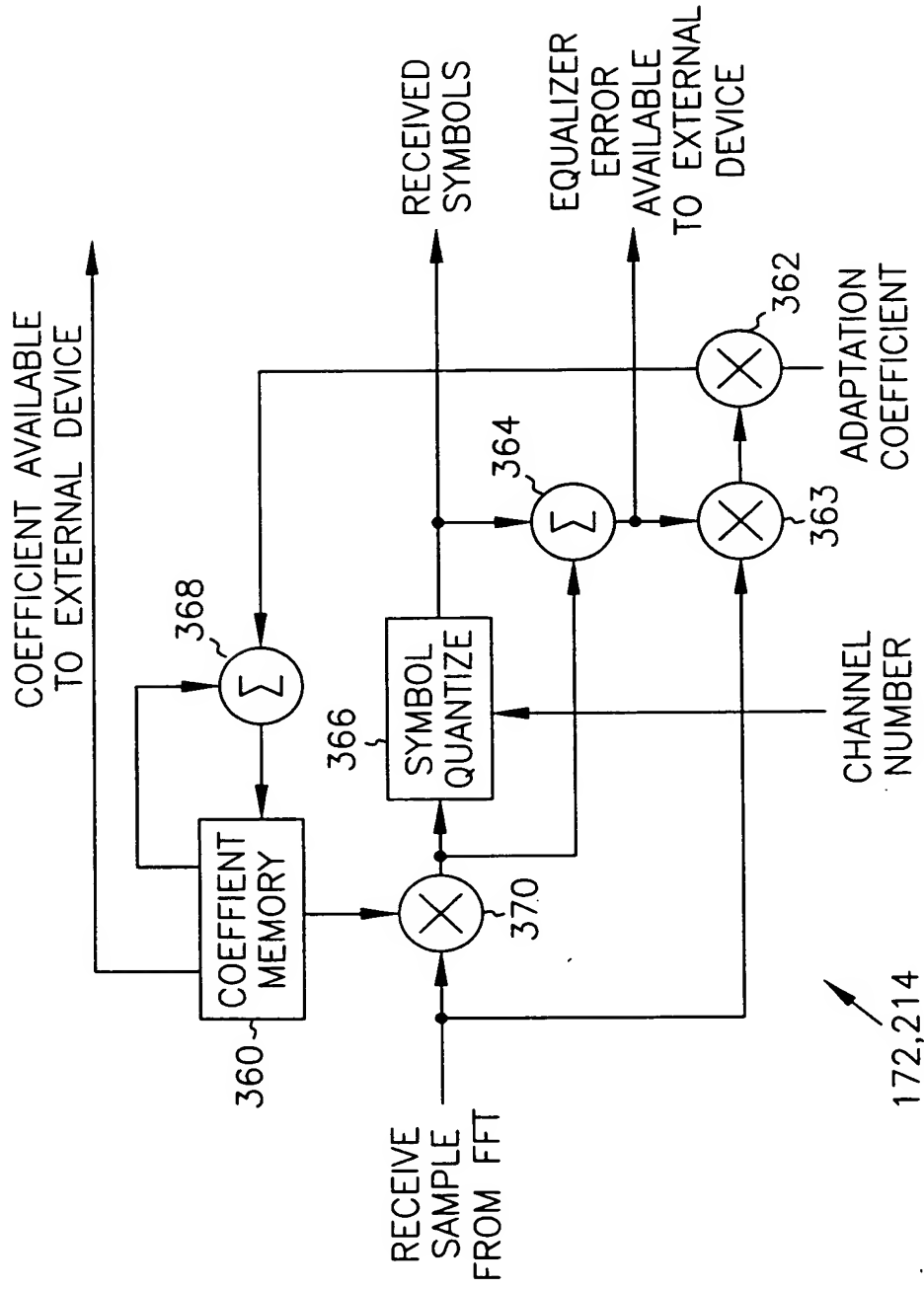


FIG. 35



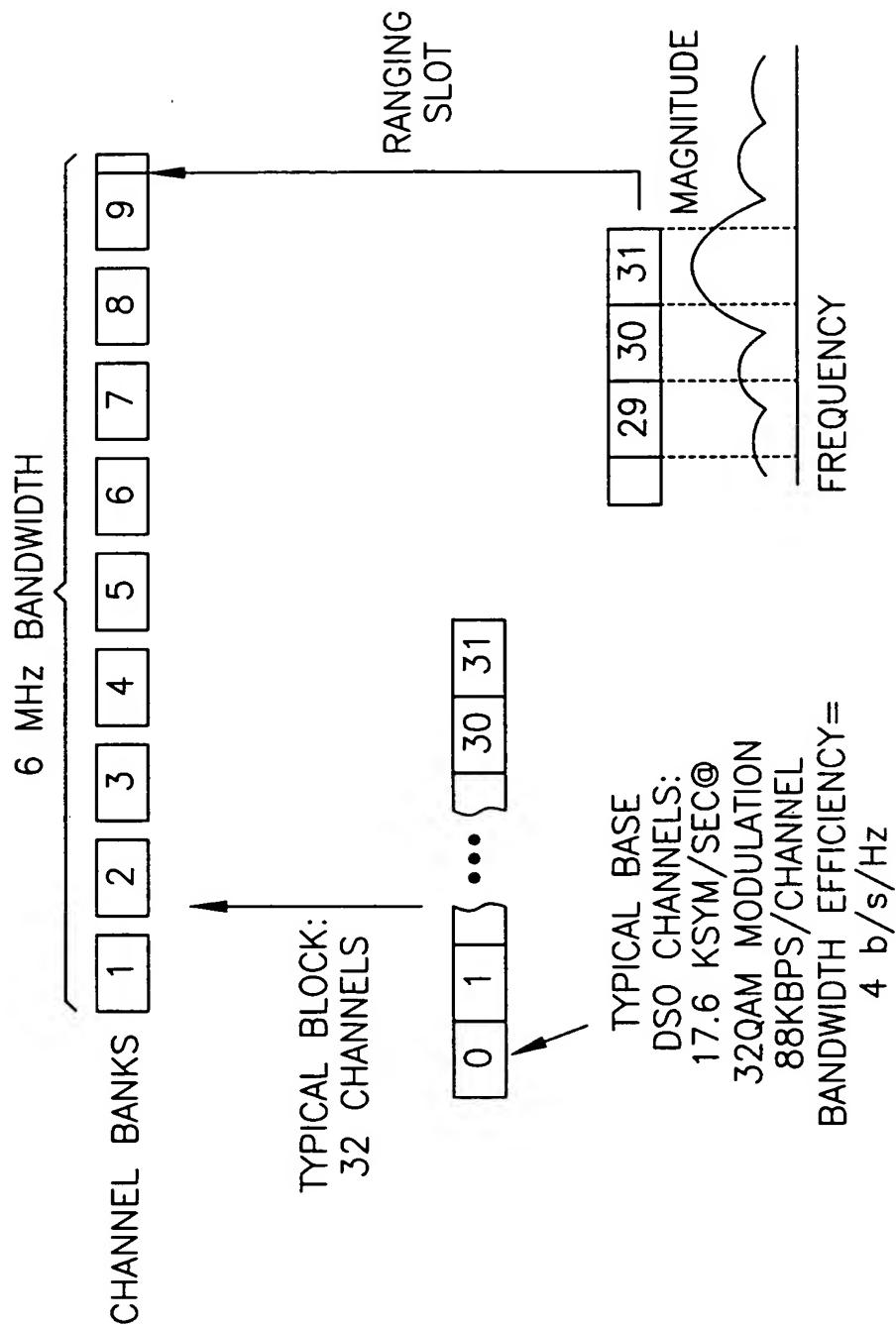


FIG. 36

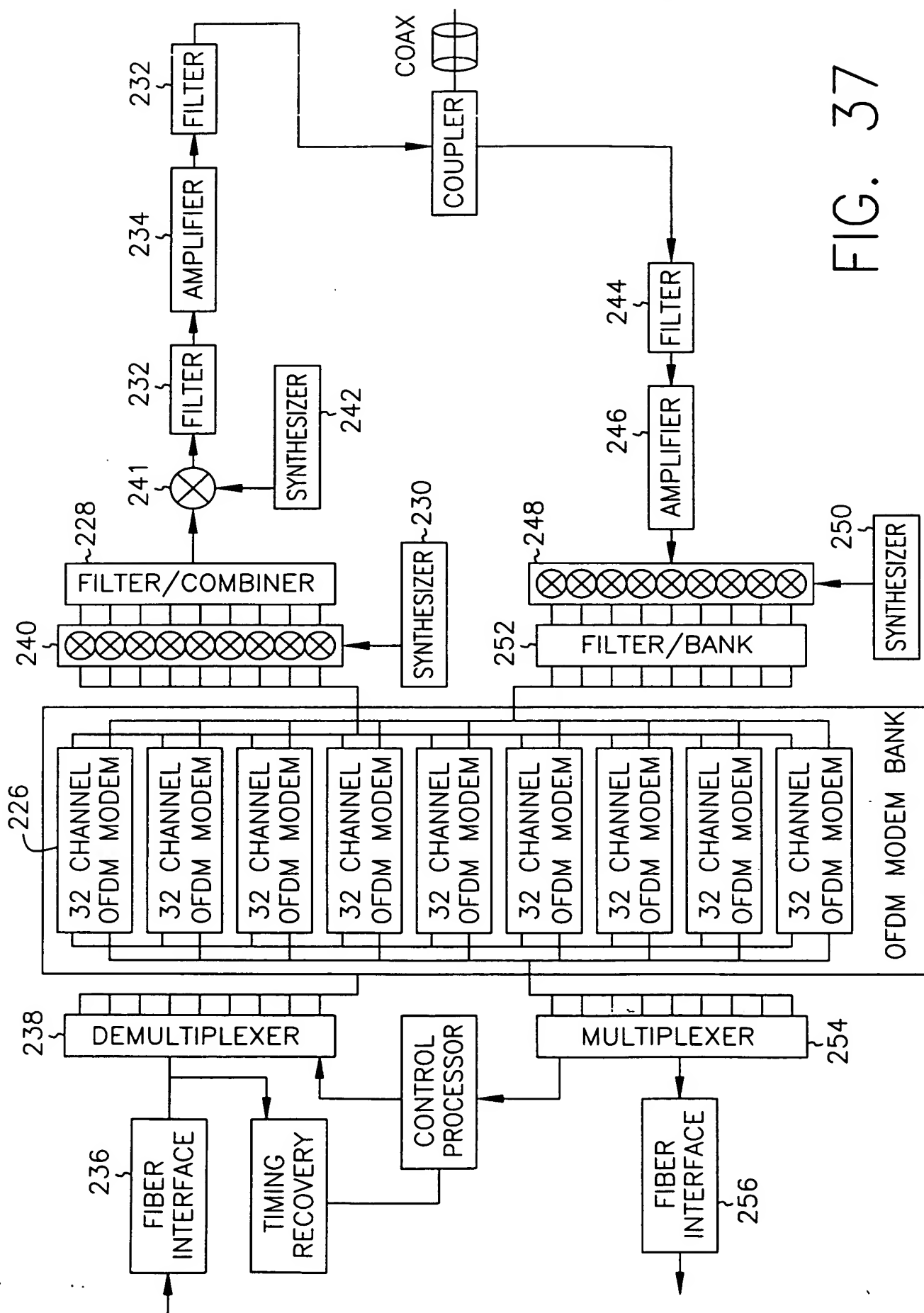


FIG. 37

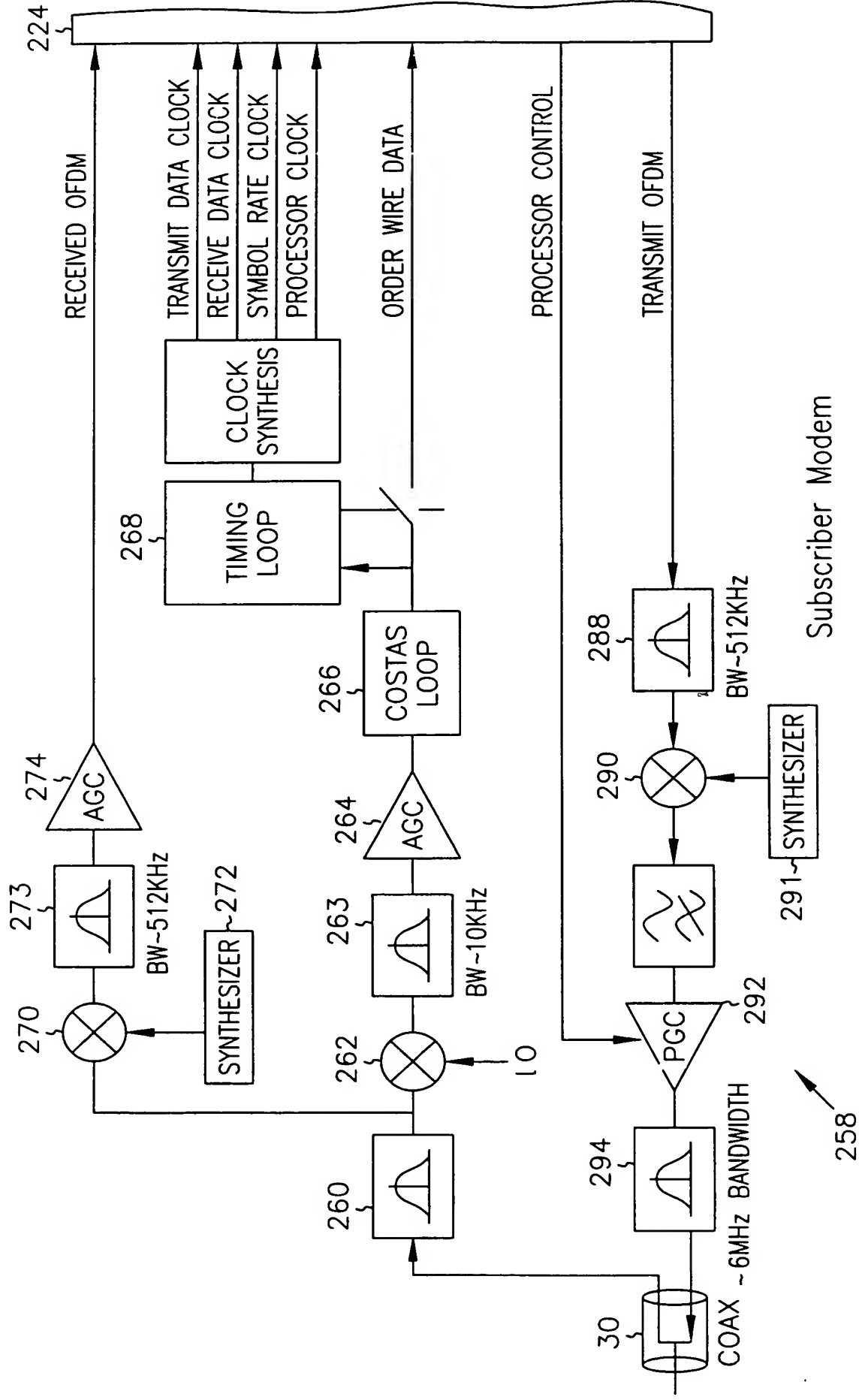


FIG. 38

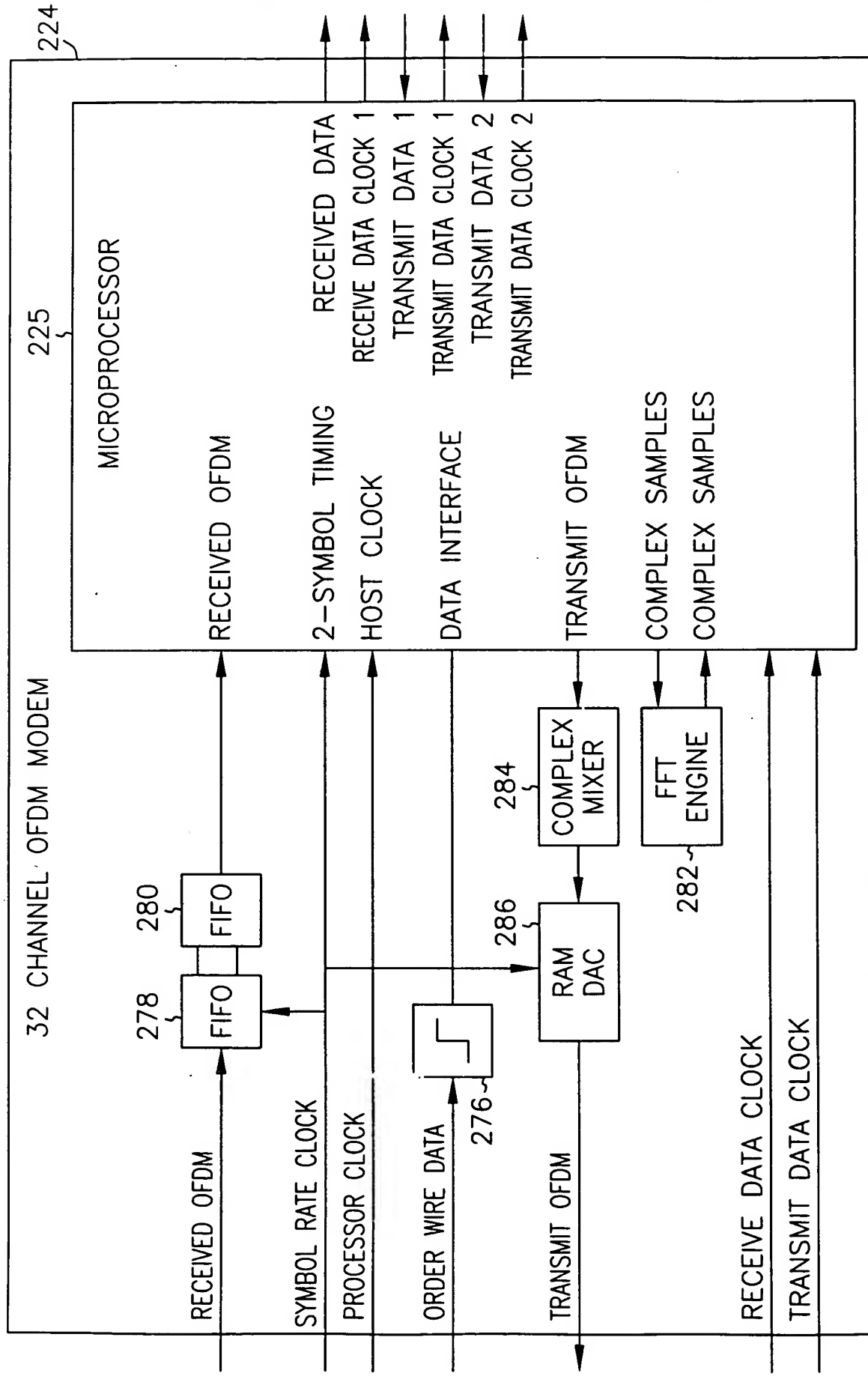


FIG. 39

offered

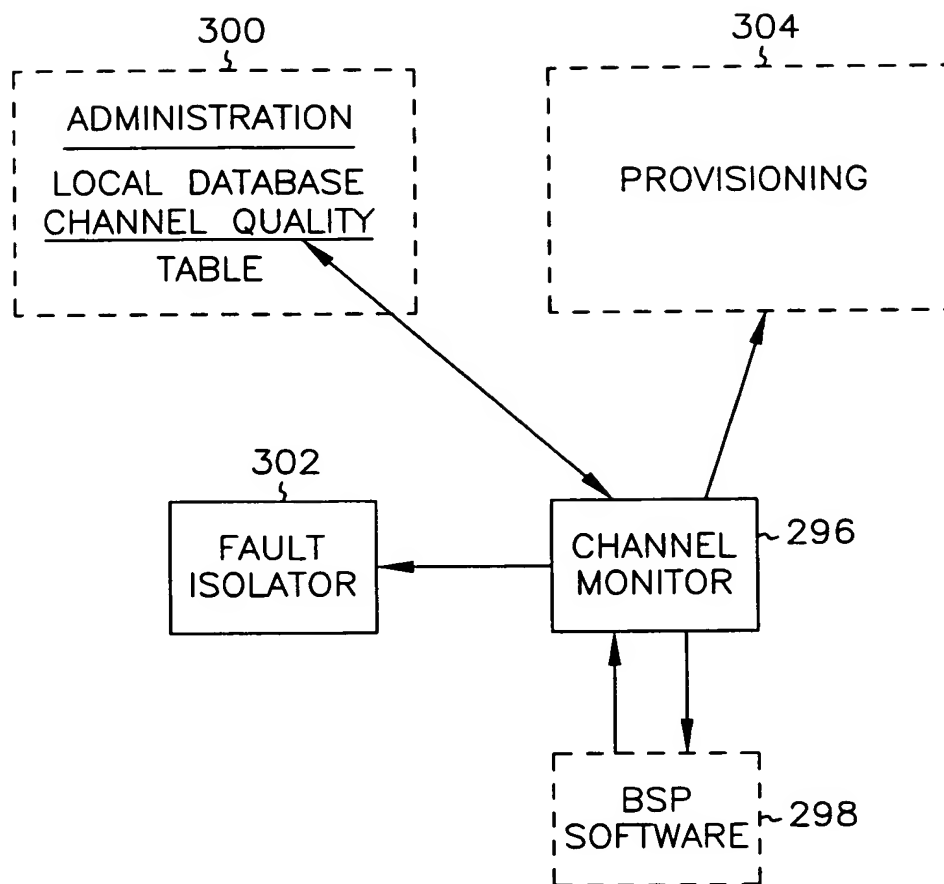


FIG. 40

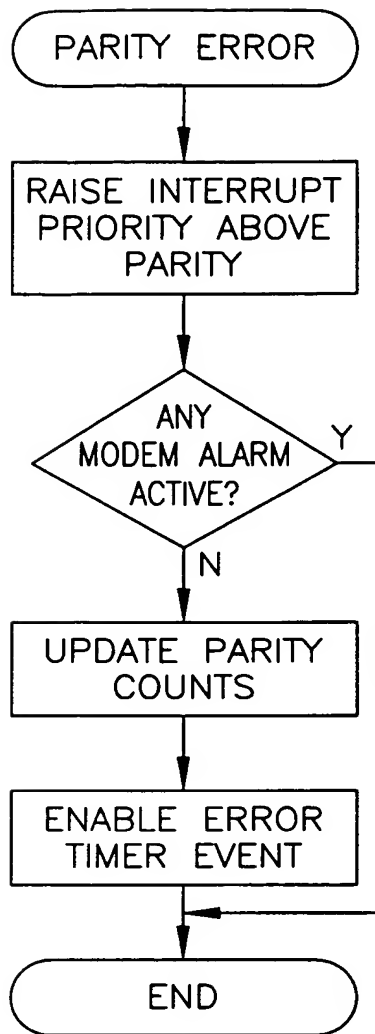


FIG. 41

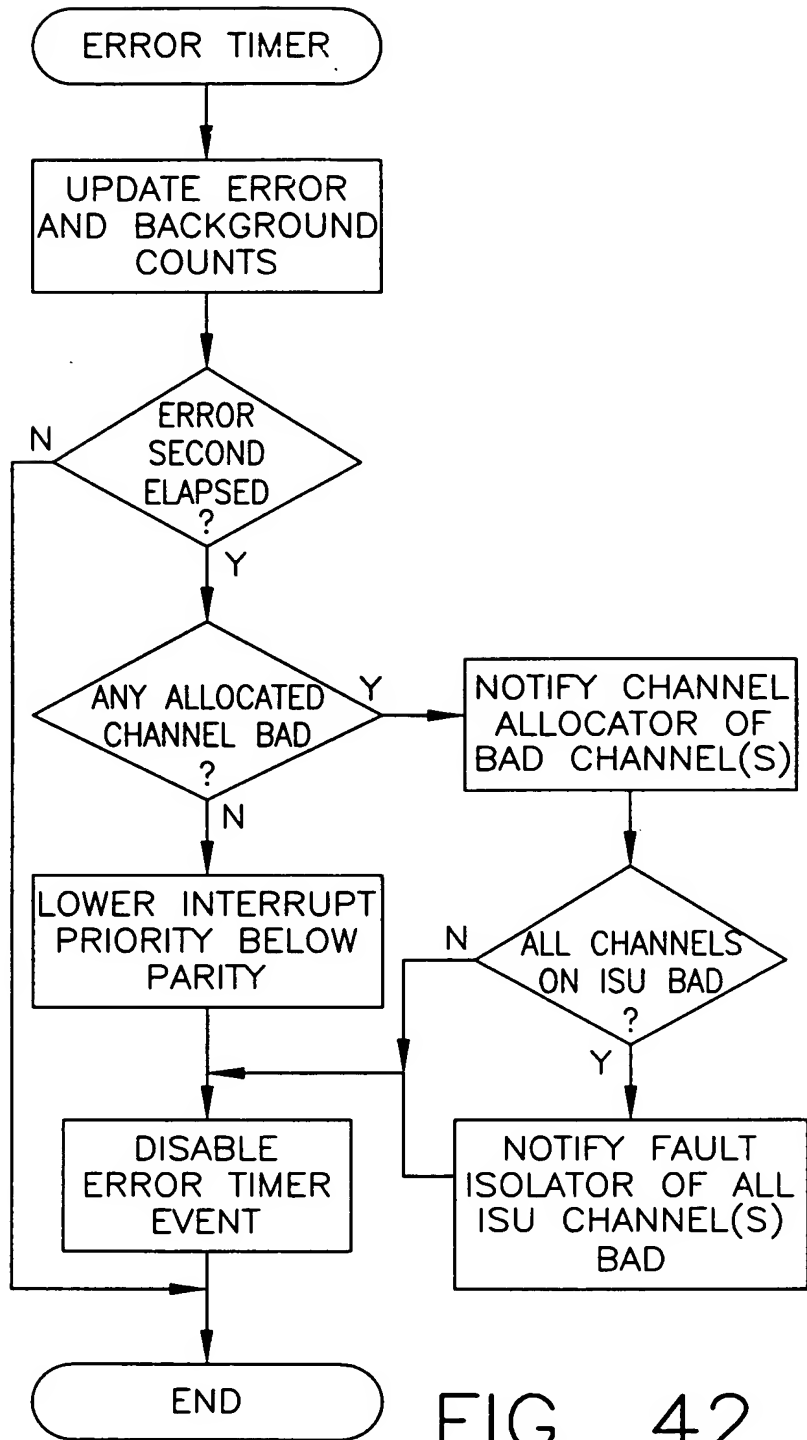


FIG. 42

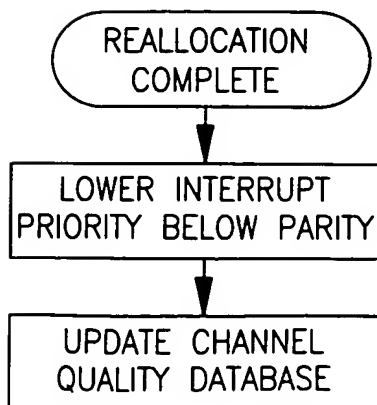
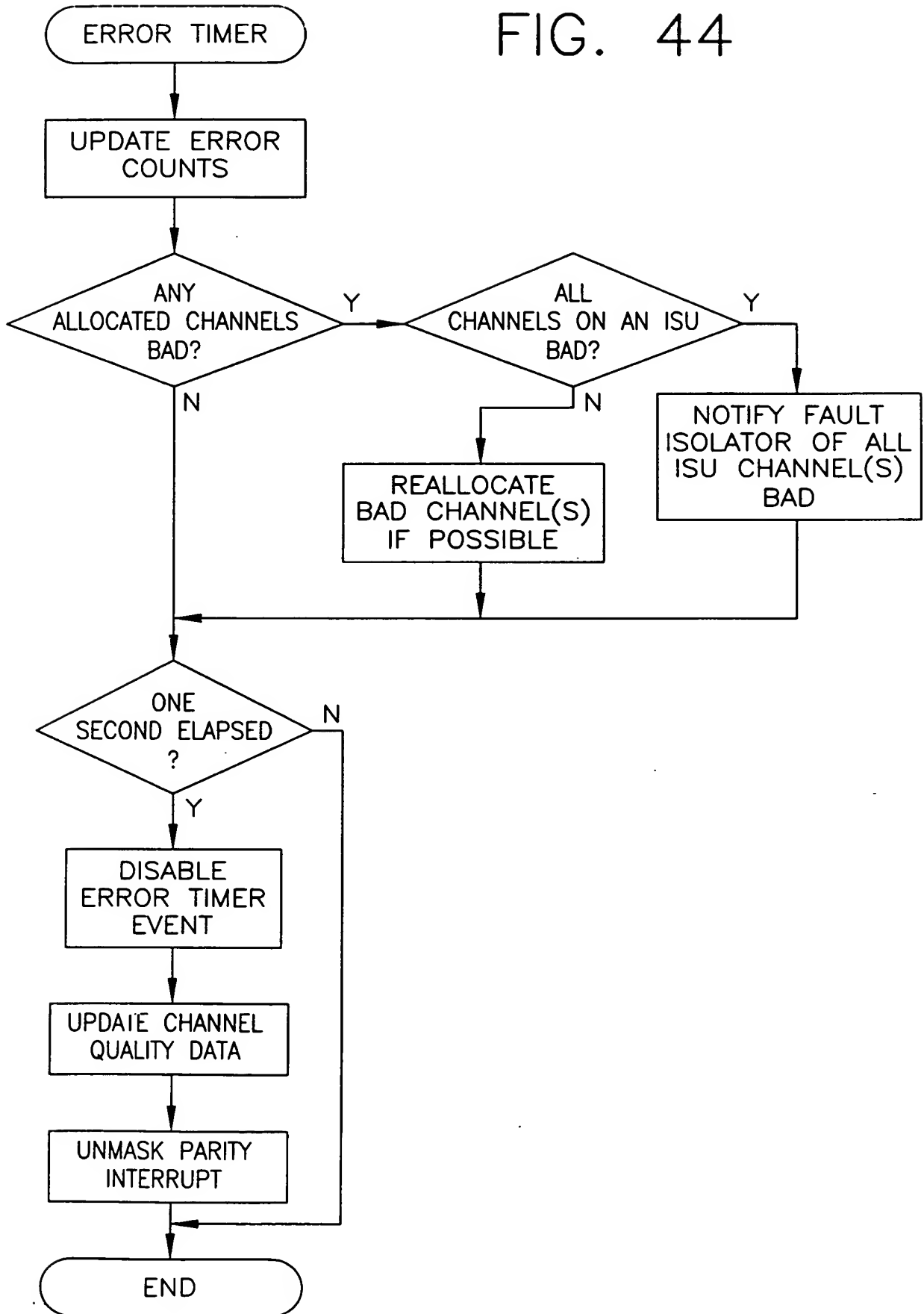


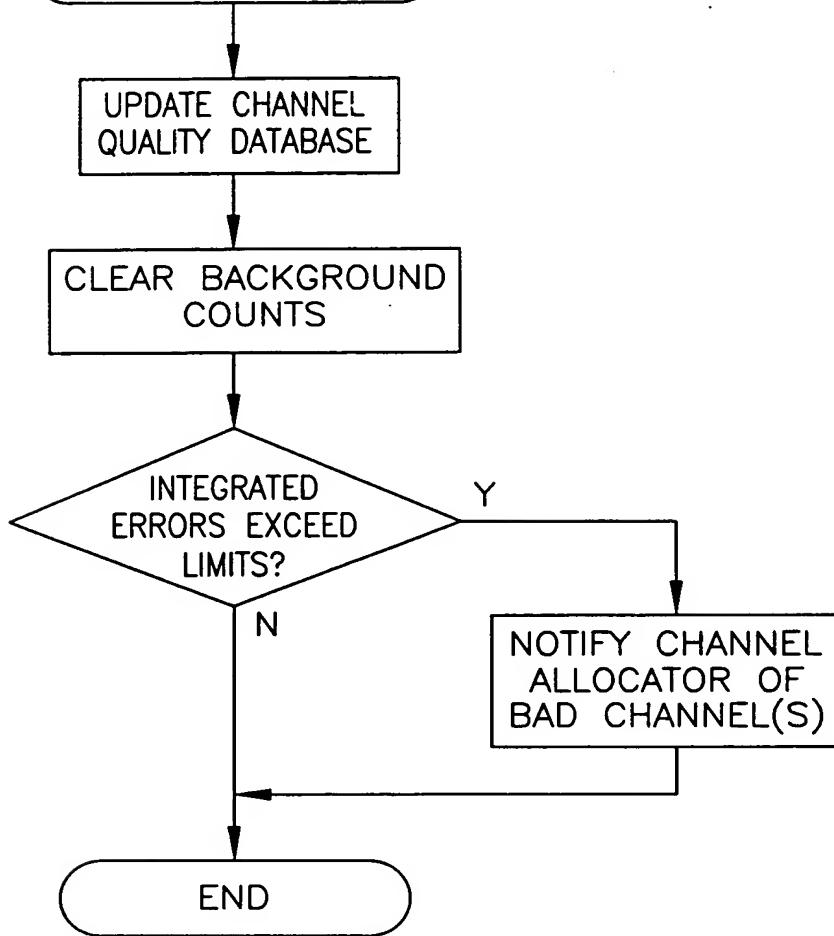
FIG. 43

FIG. 44



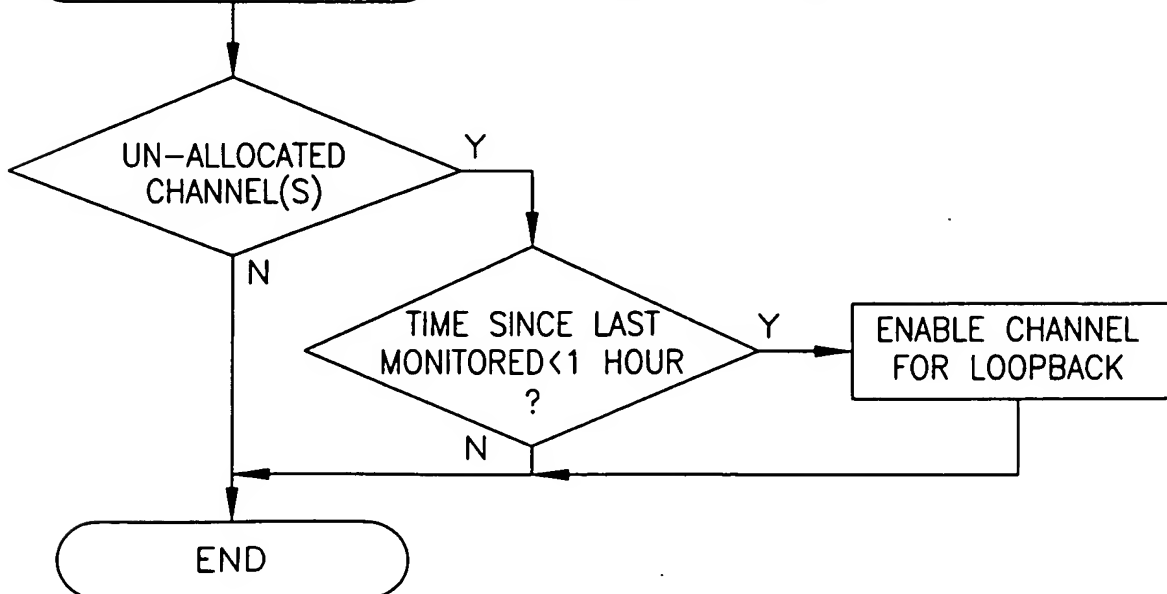
BACKGROUND TIMER

FIG. 45



BACKGROUND TIMER

FIG. 46





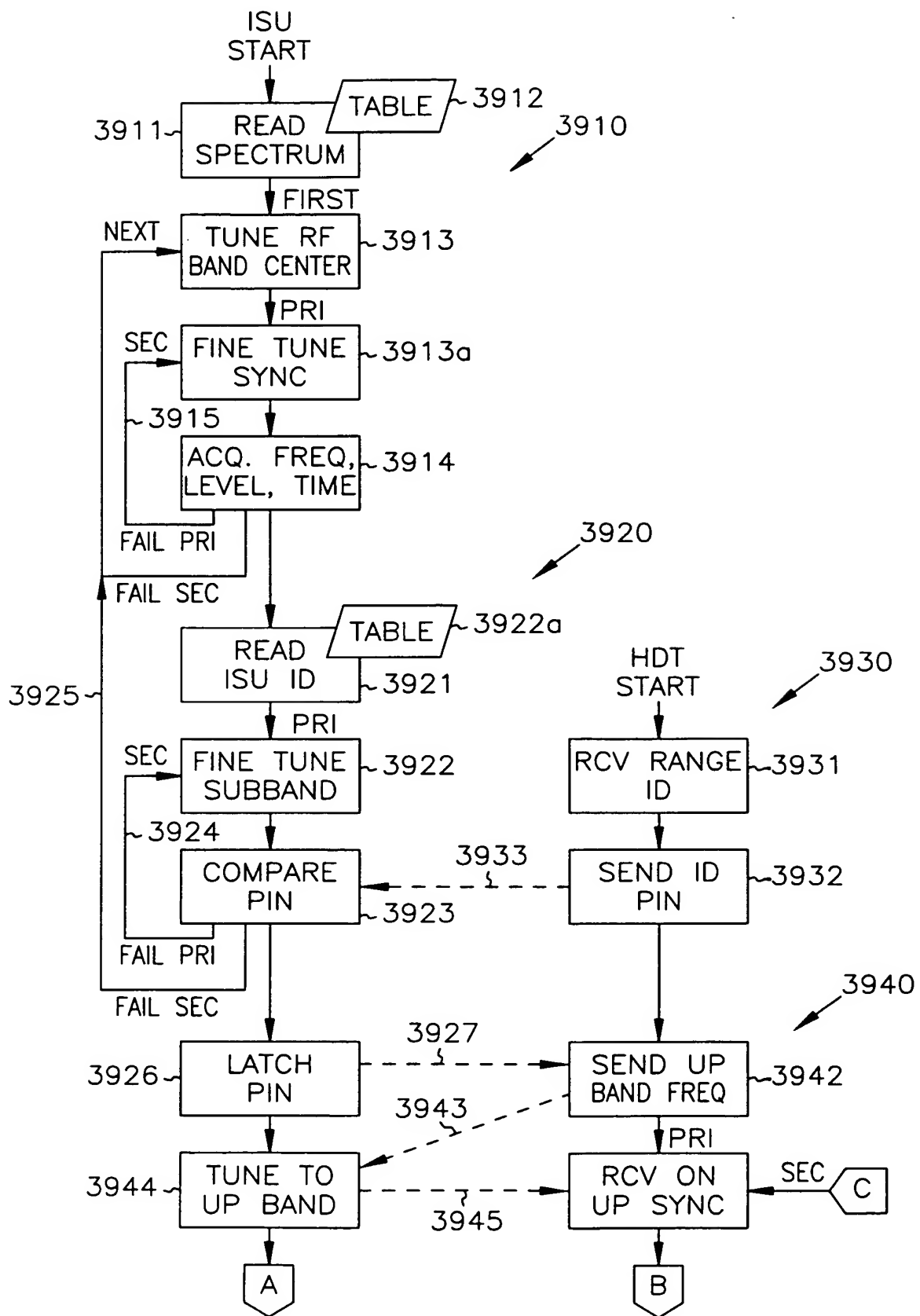
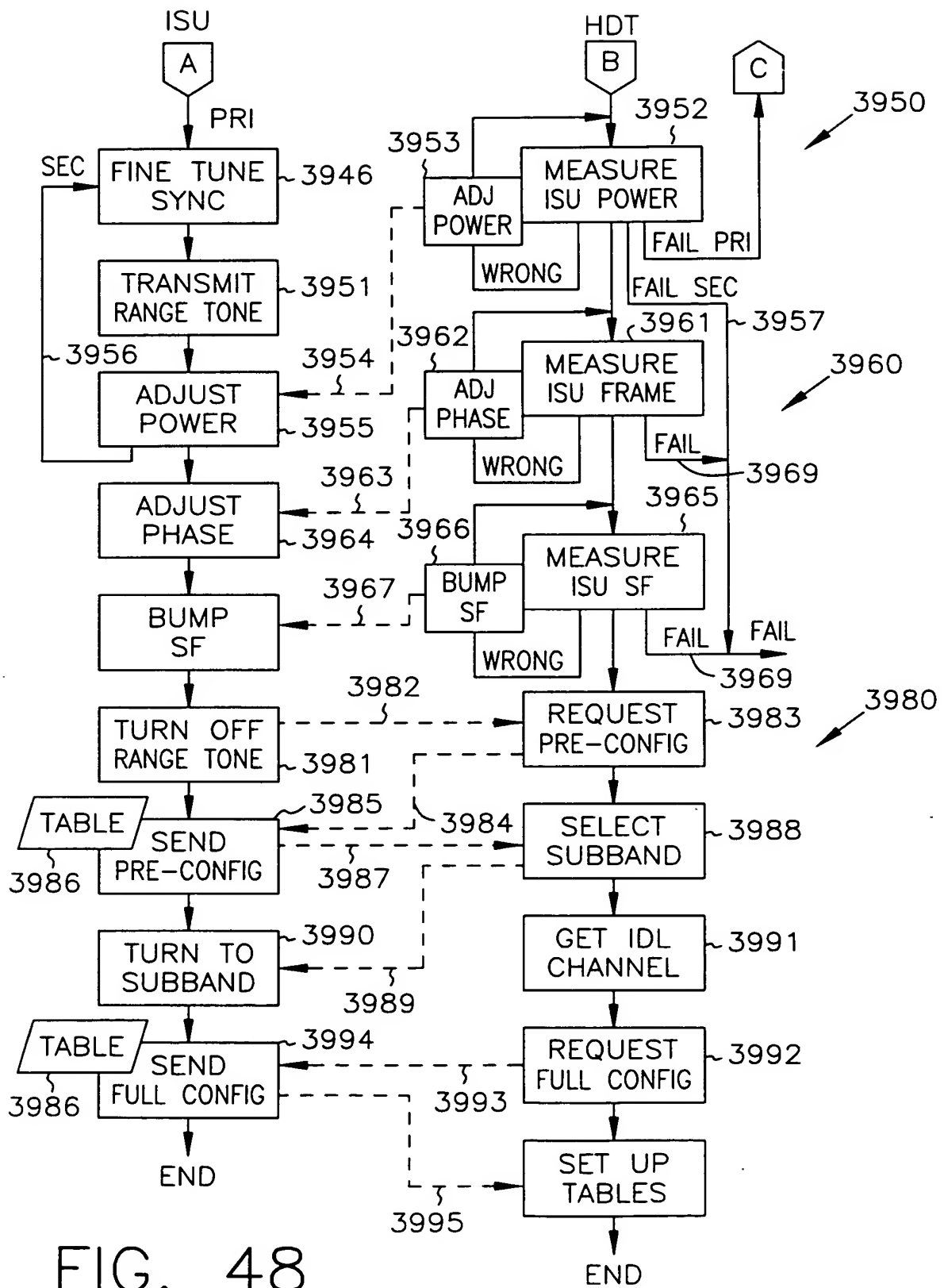


FIG. 47



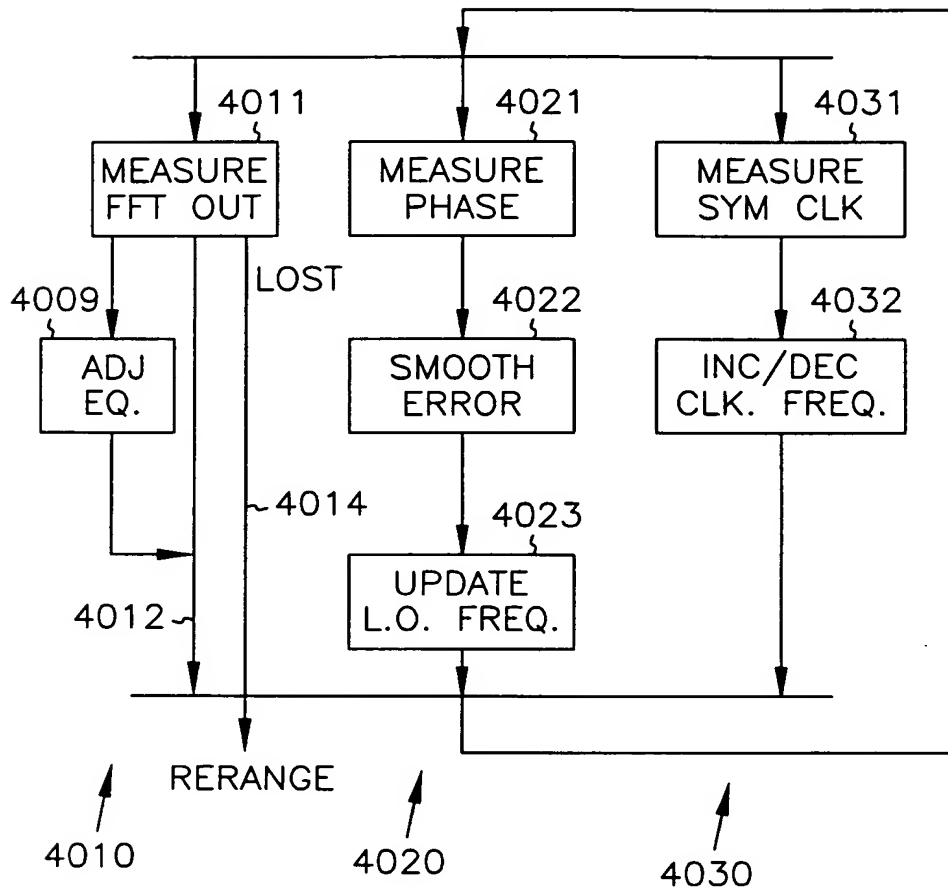


FIG. 49

FIG. 50

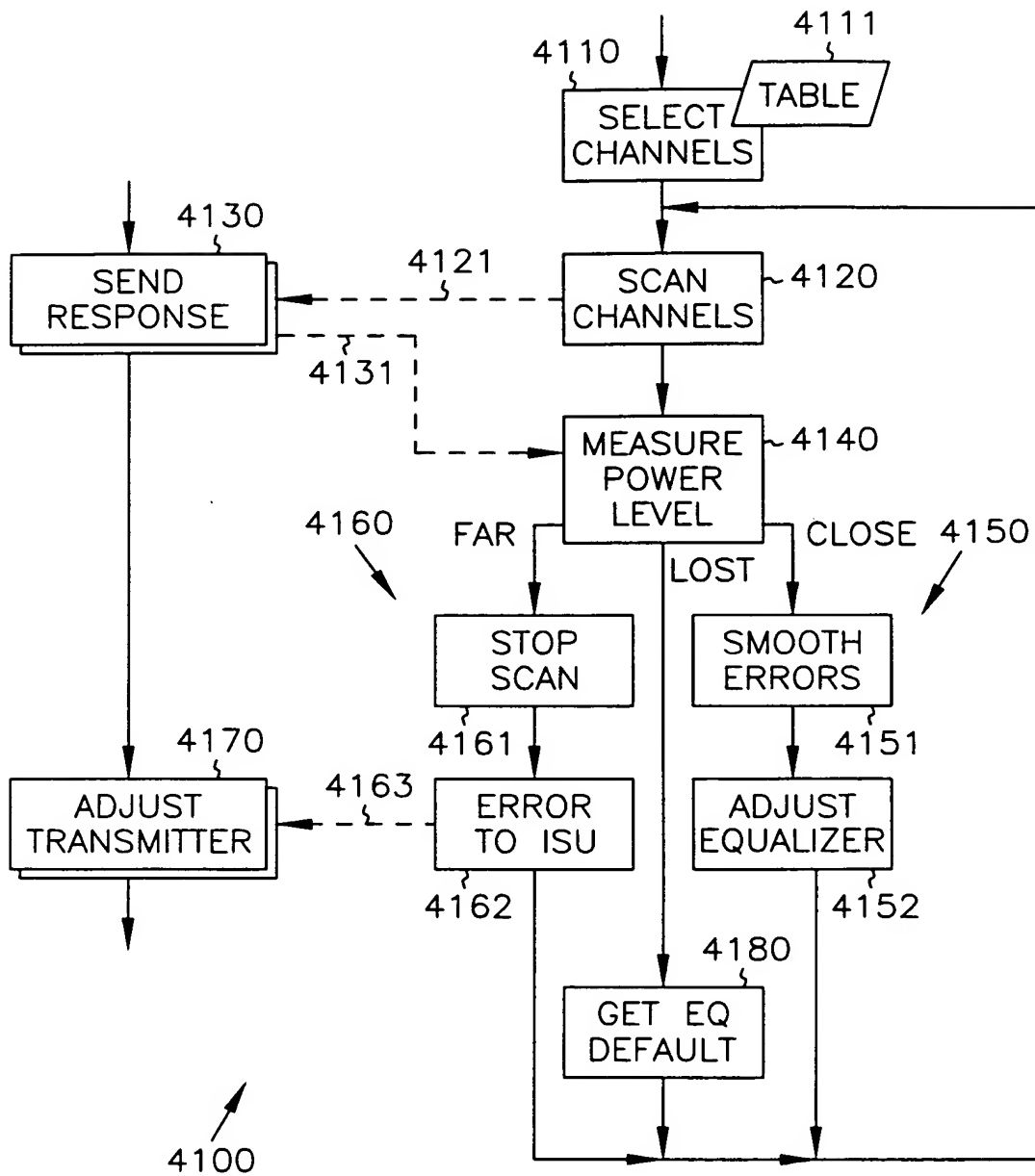


FIG. 50

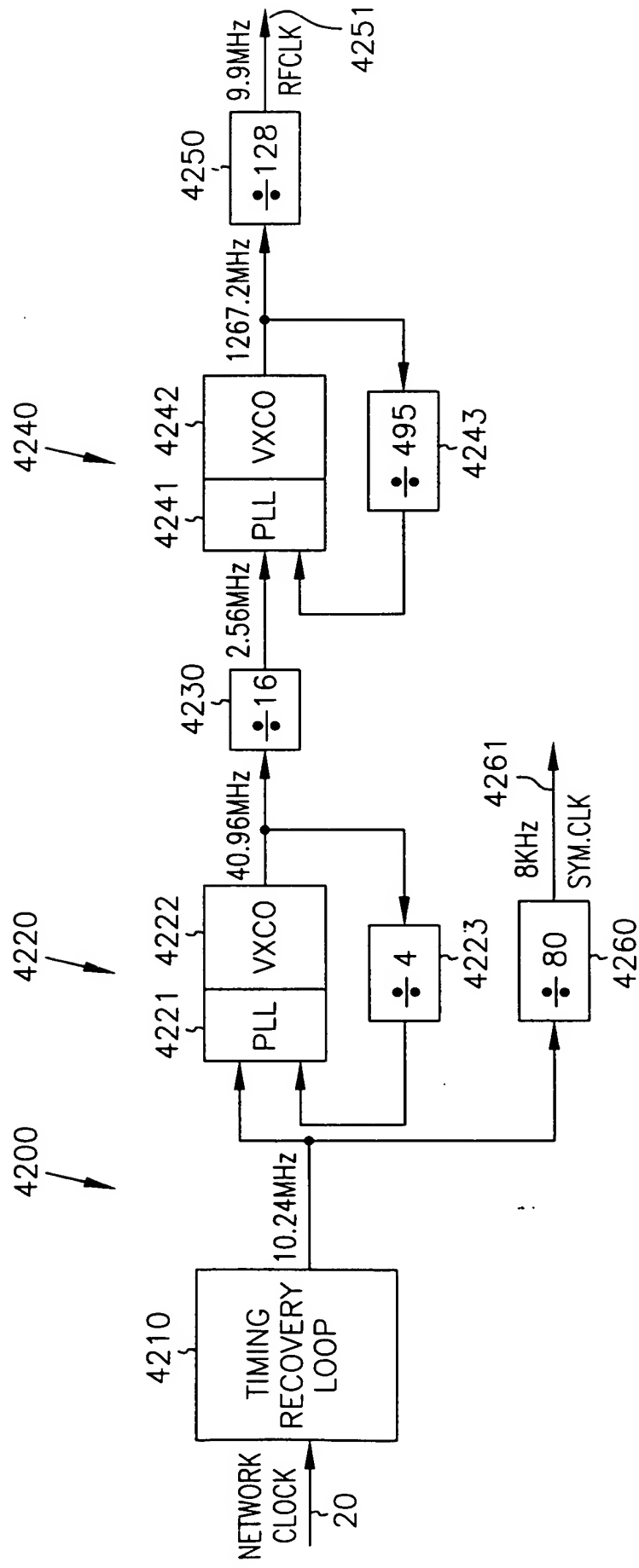


FIG. 51

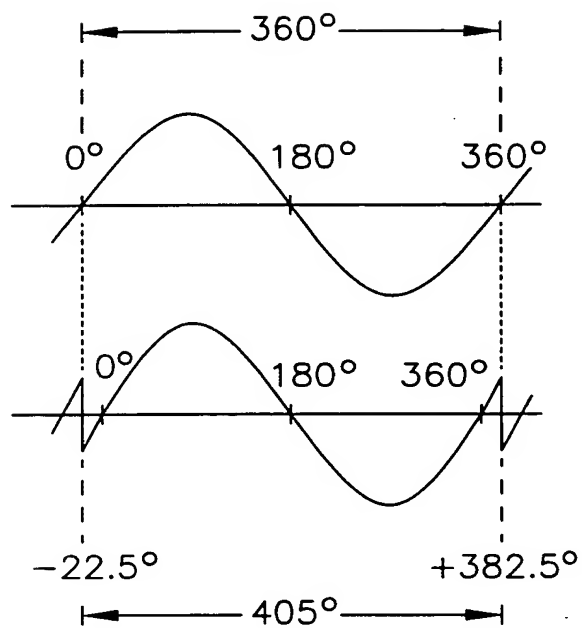


FIG. 52

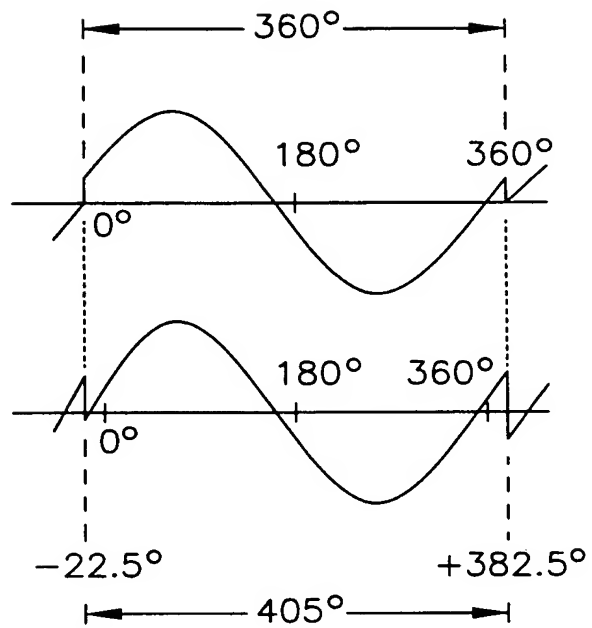


FIG. 53

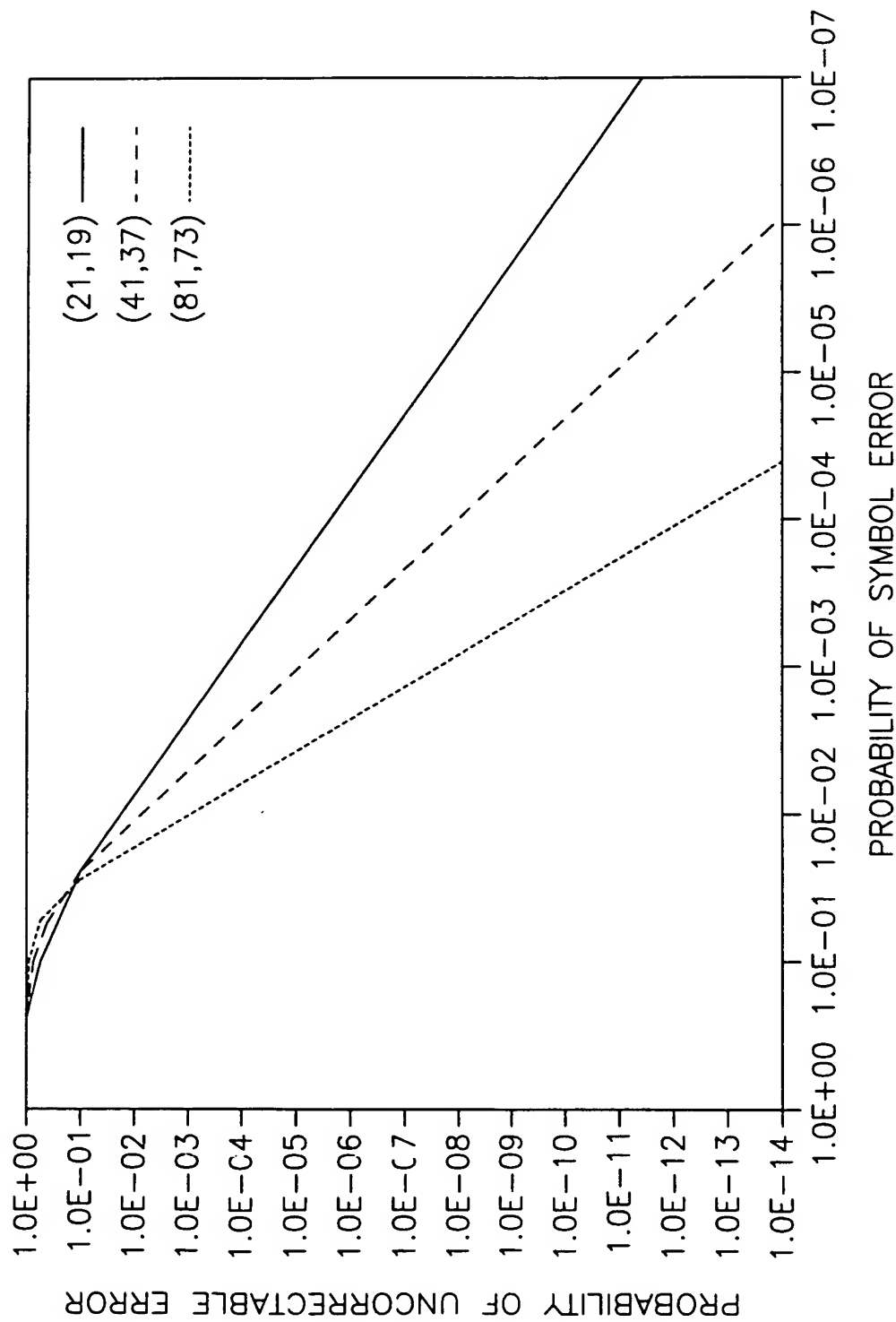


FIG. 54

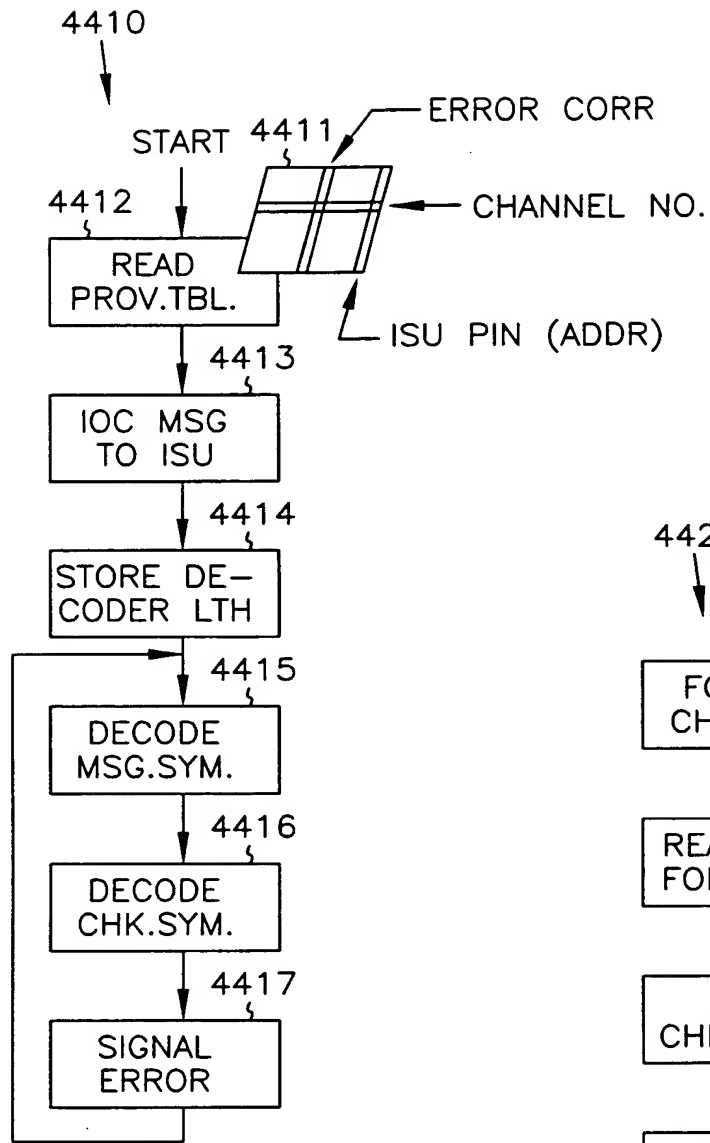


FIG. 55

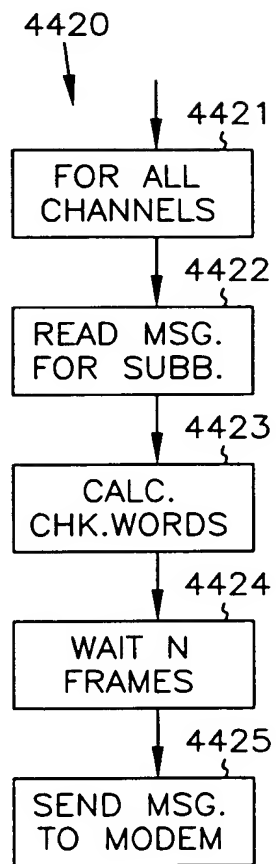


FIG. 56



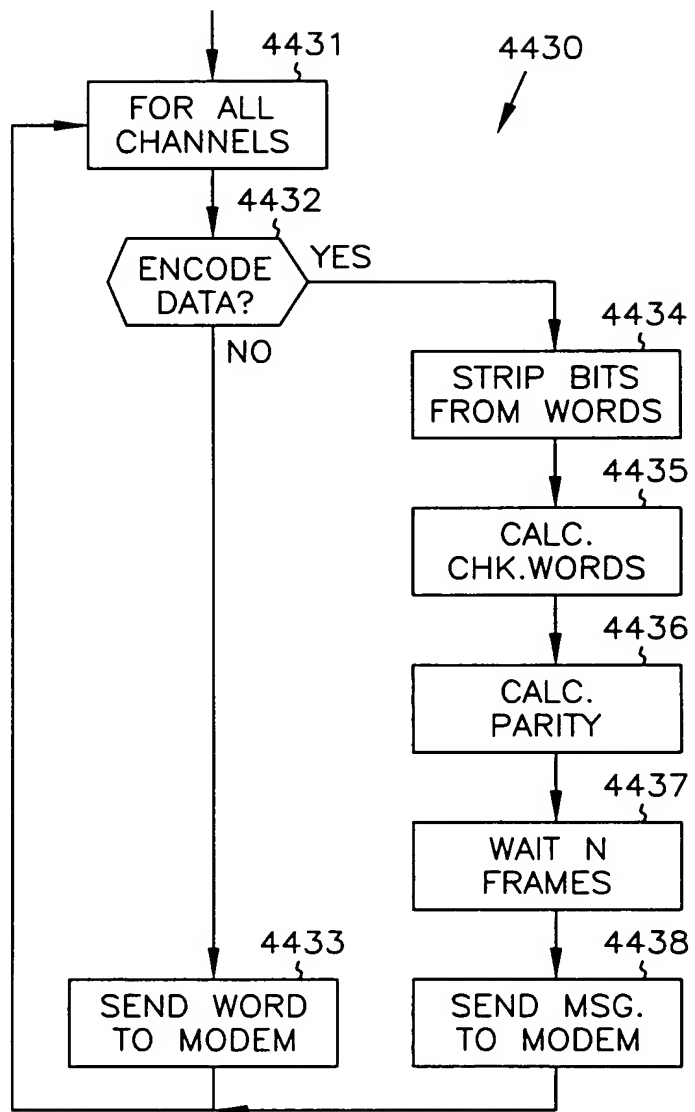


FIG. 57

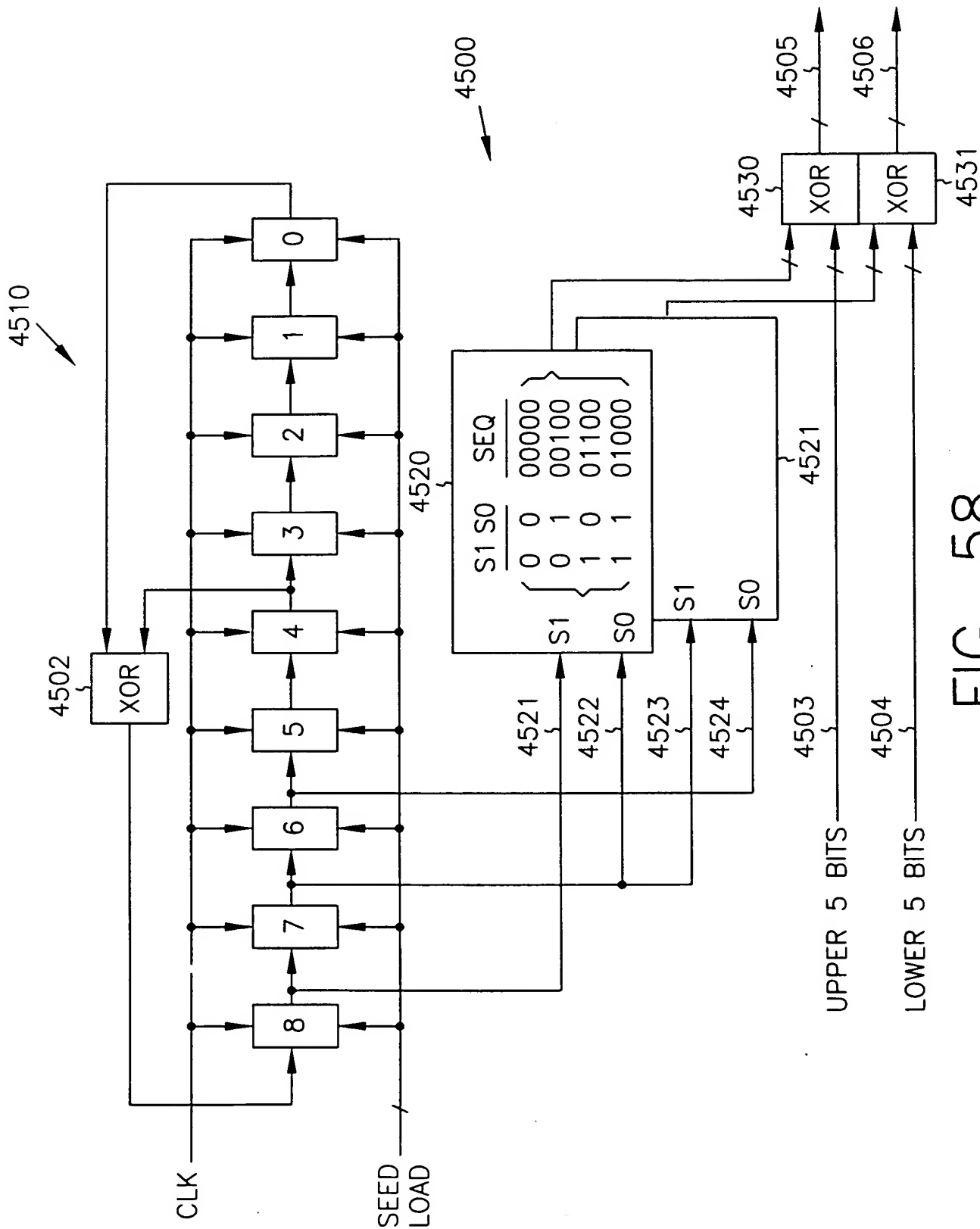


FIG. 58

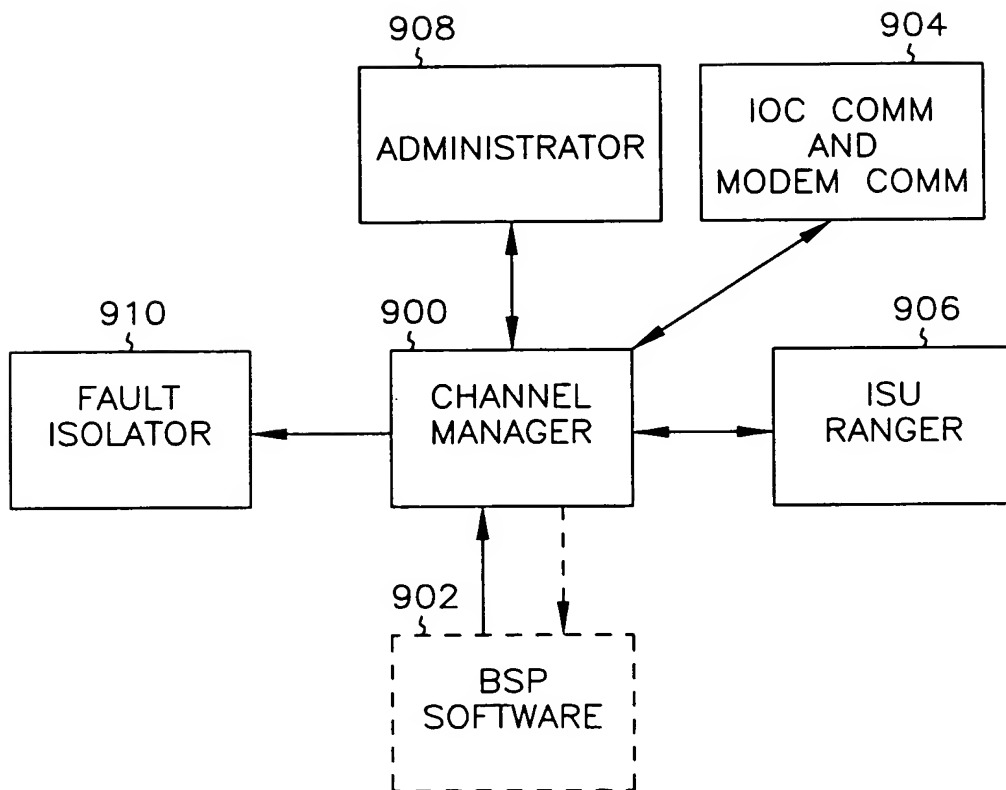


FIG. 59

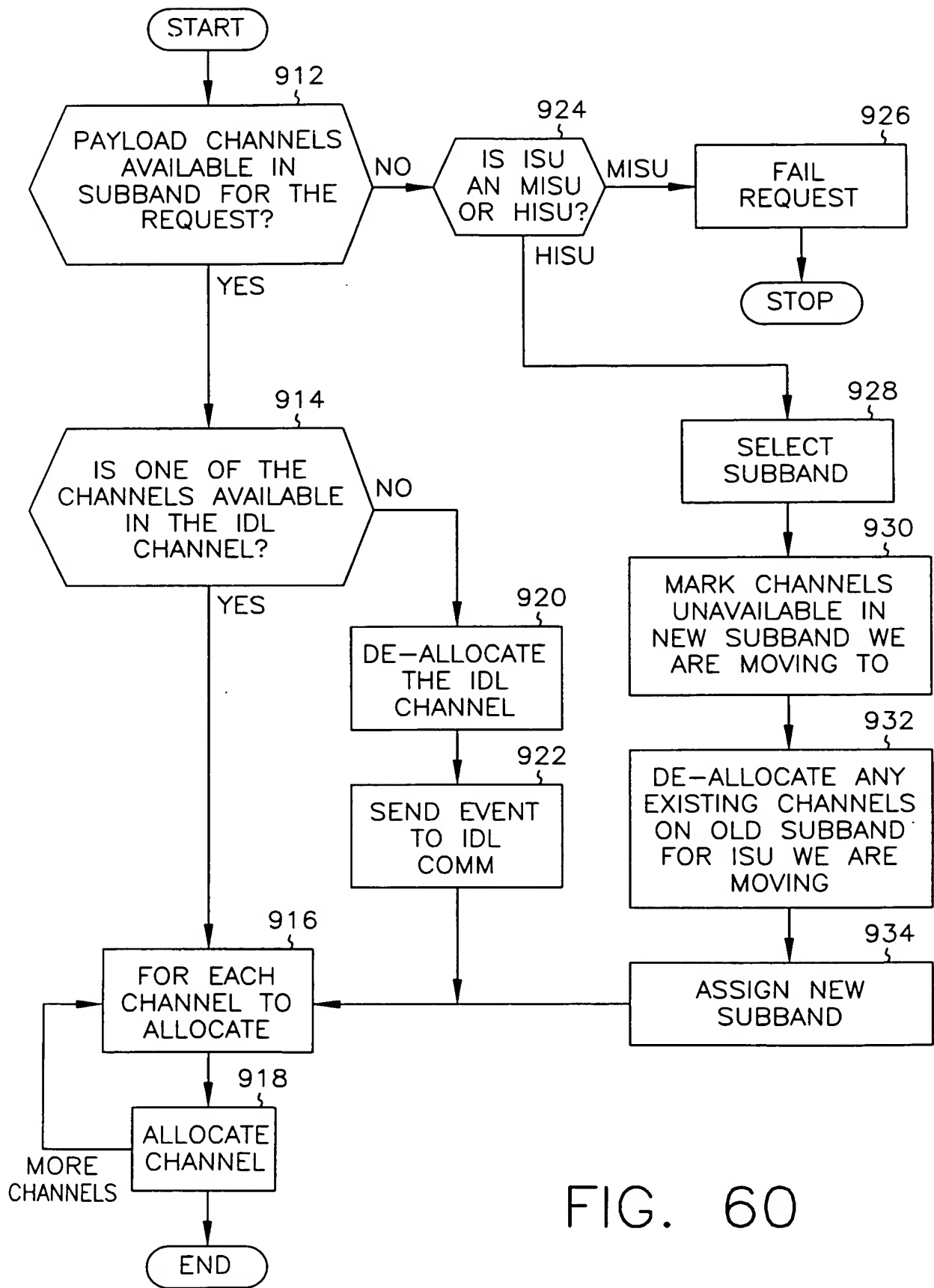


FIG. 60

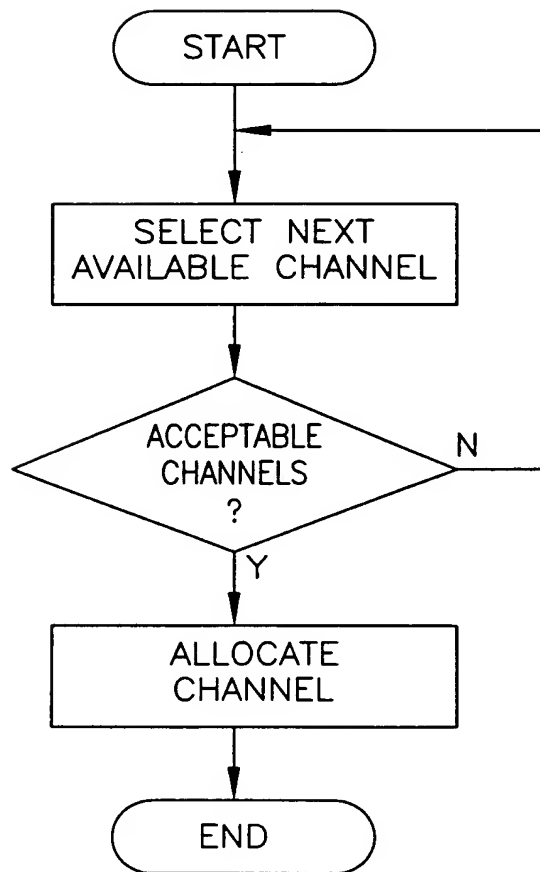


FIG. 61

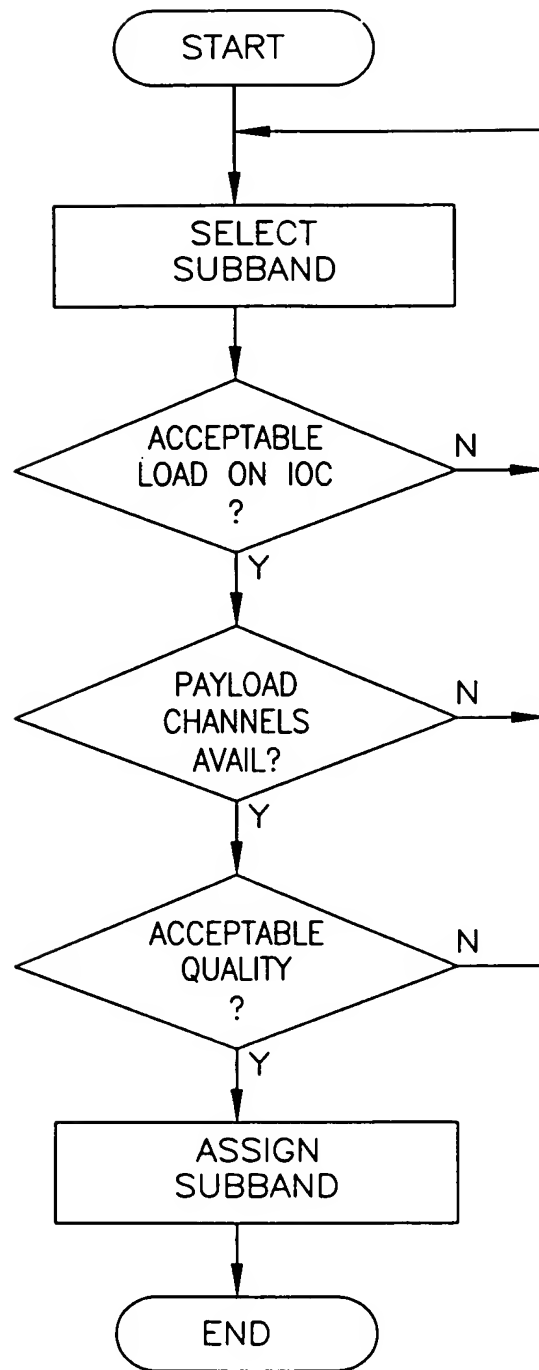
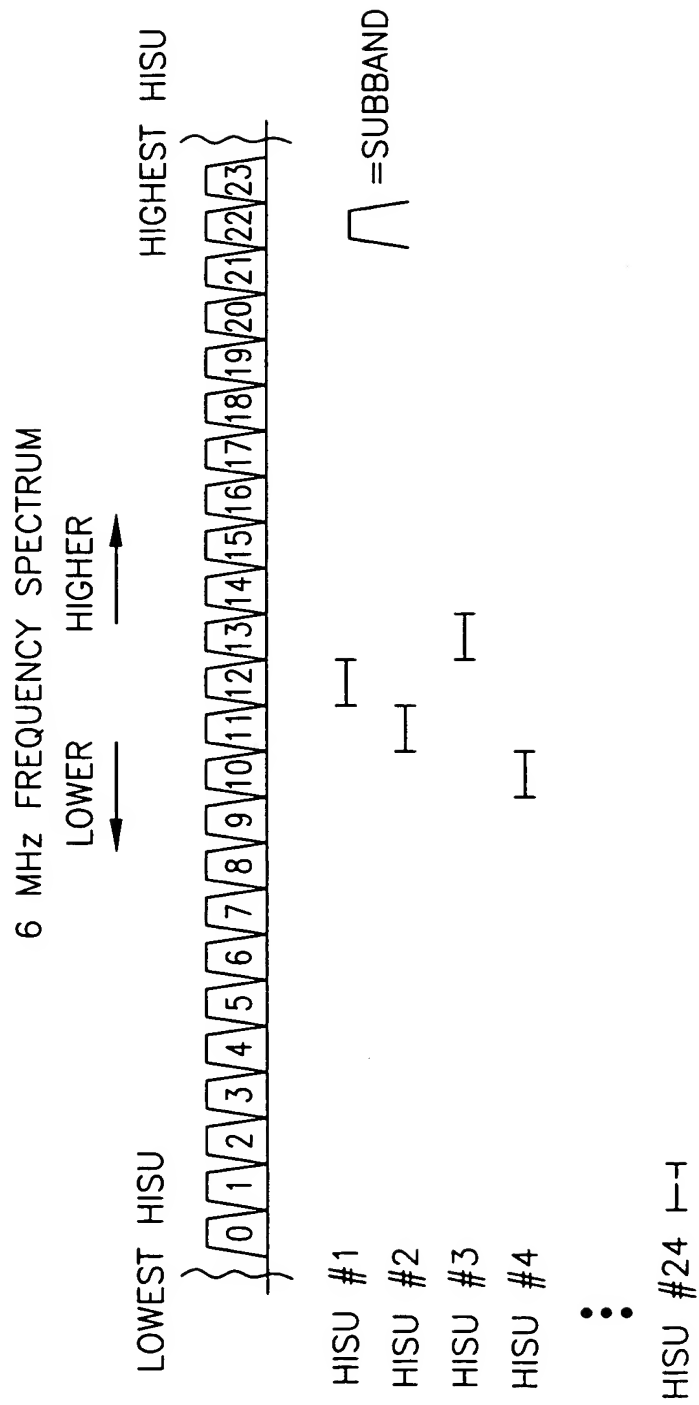


FIG. 62

[illegible]

# 6 MHz FREQUENCY SPECTRUM

LOWER →      ← HIGHER

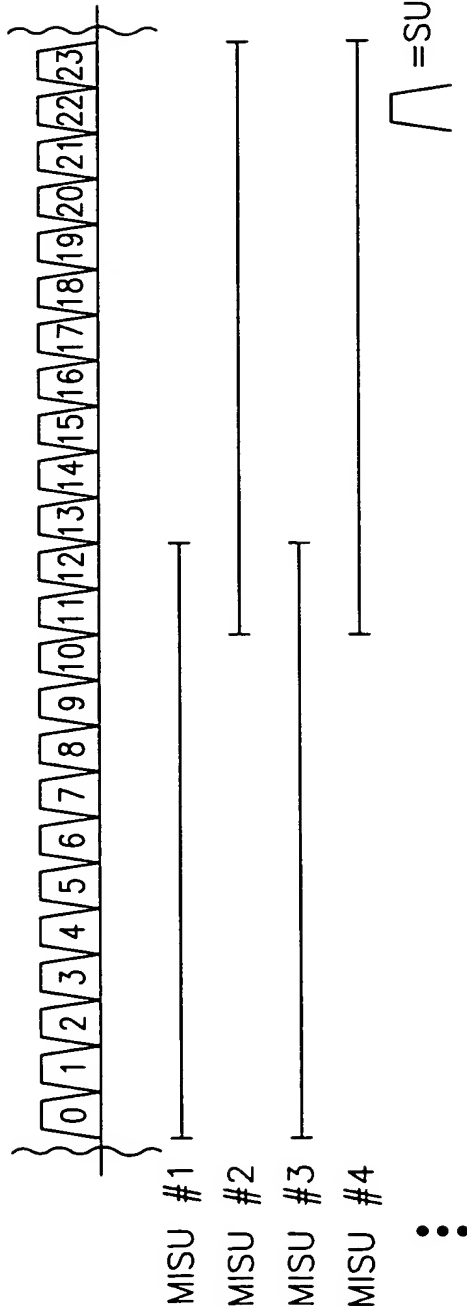


FIG. 64



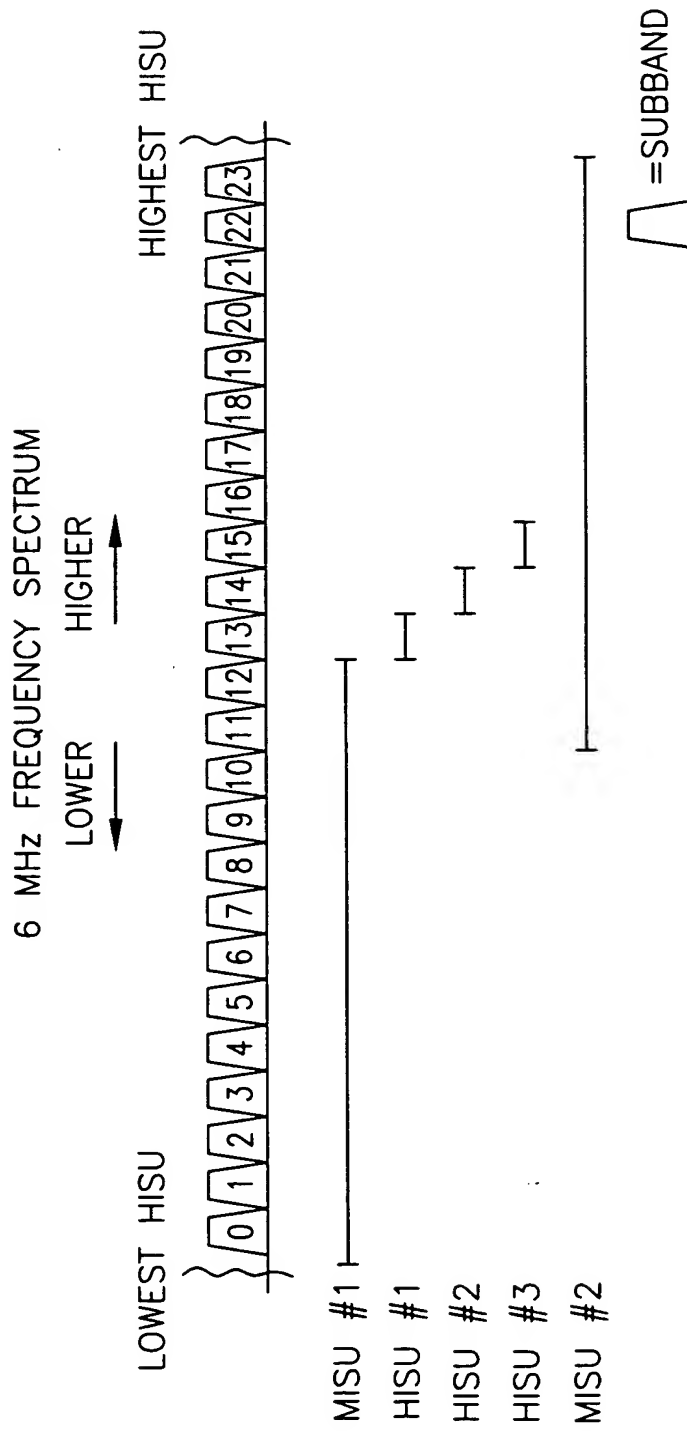


FIG. 65

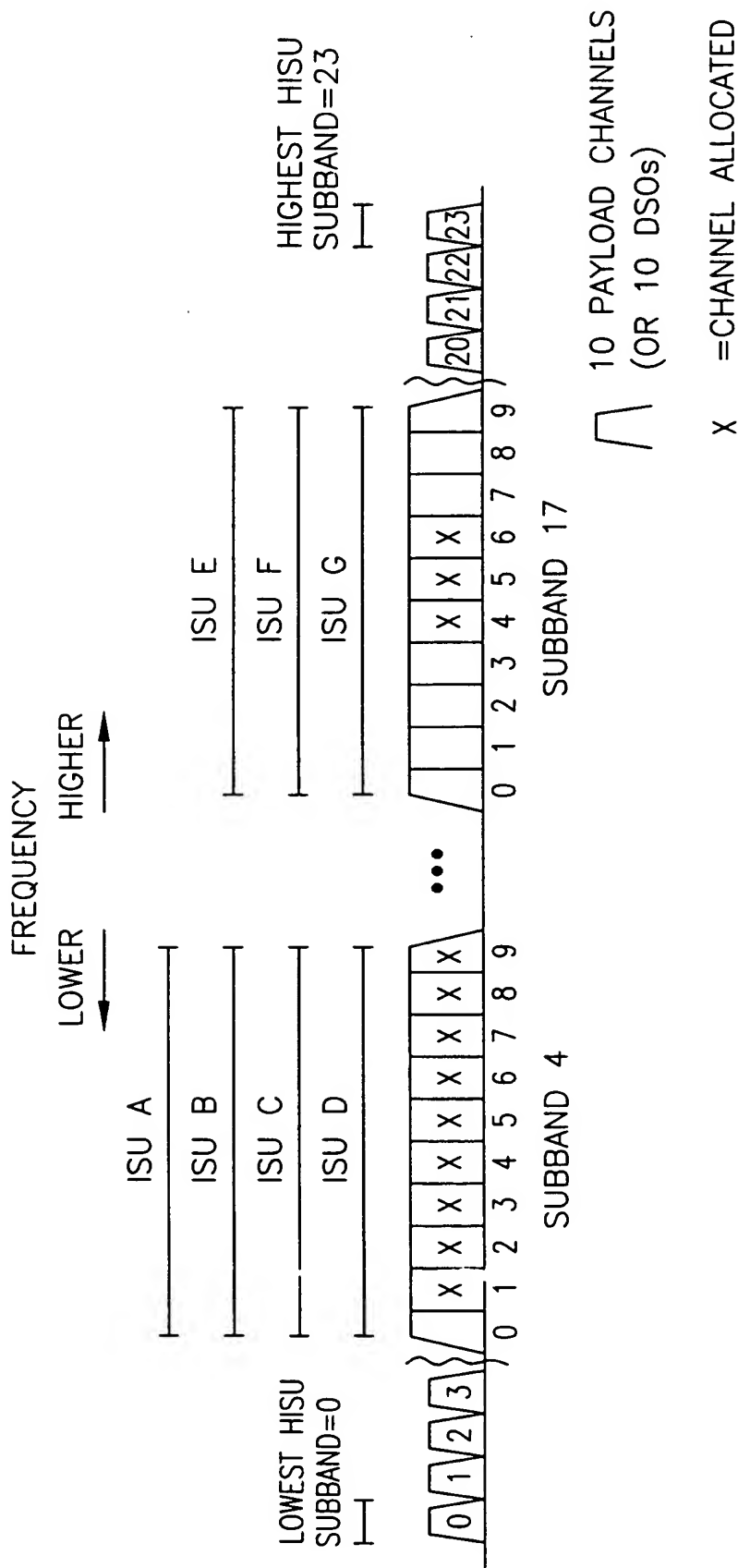


FIG. 66

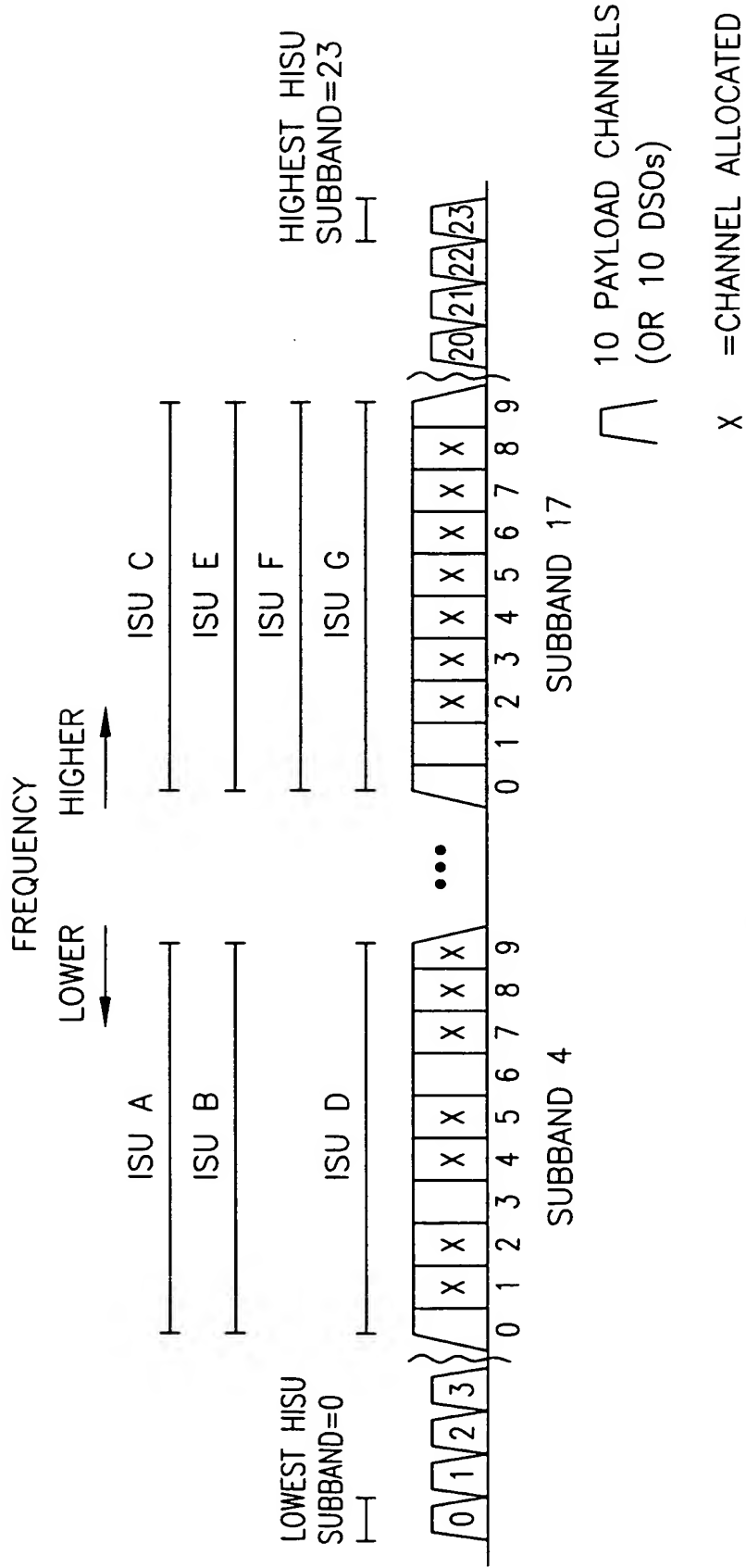


FIG. 67

event timer

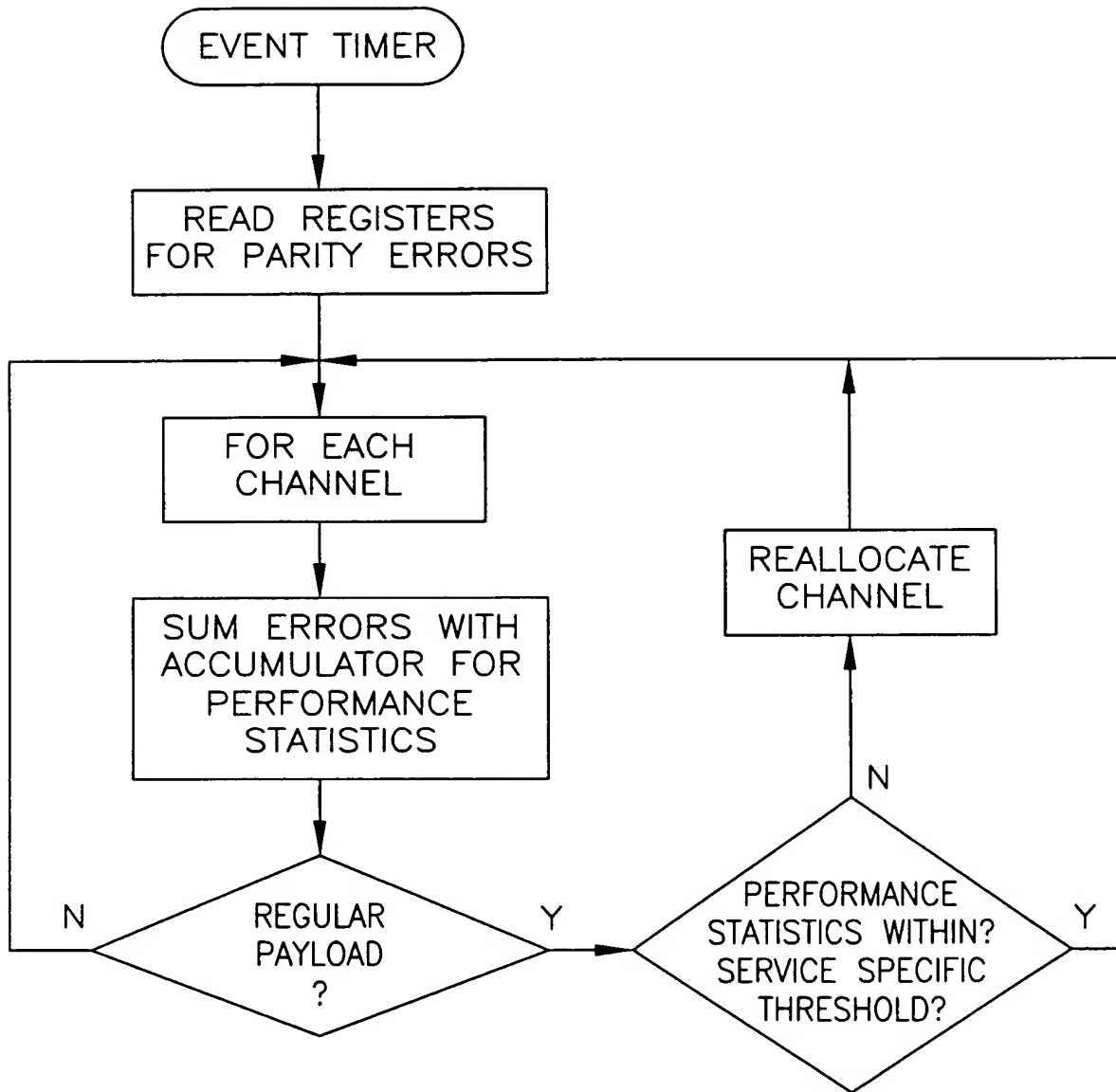


FIG. 68

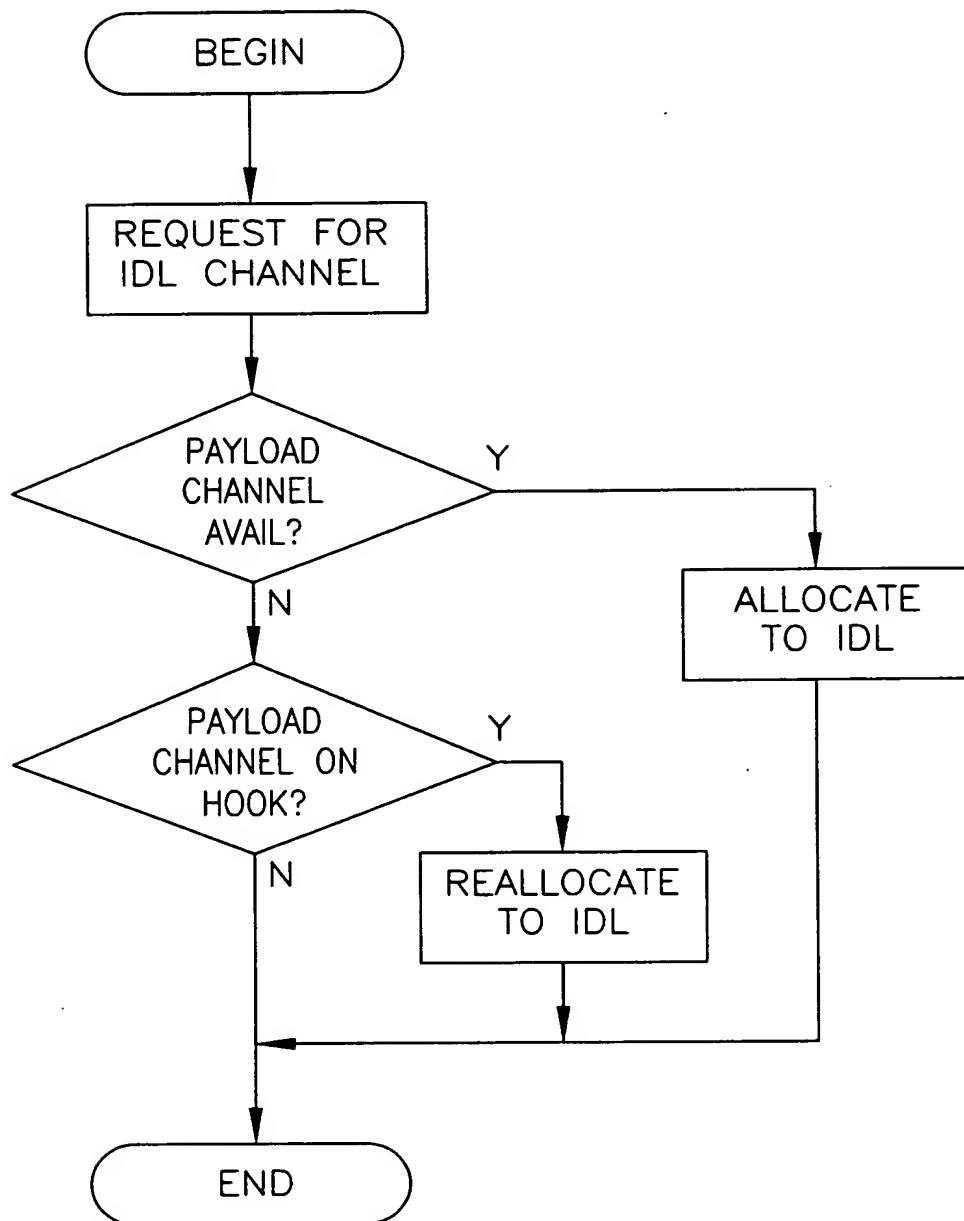


FIG. 69

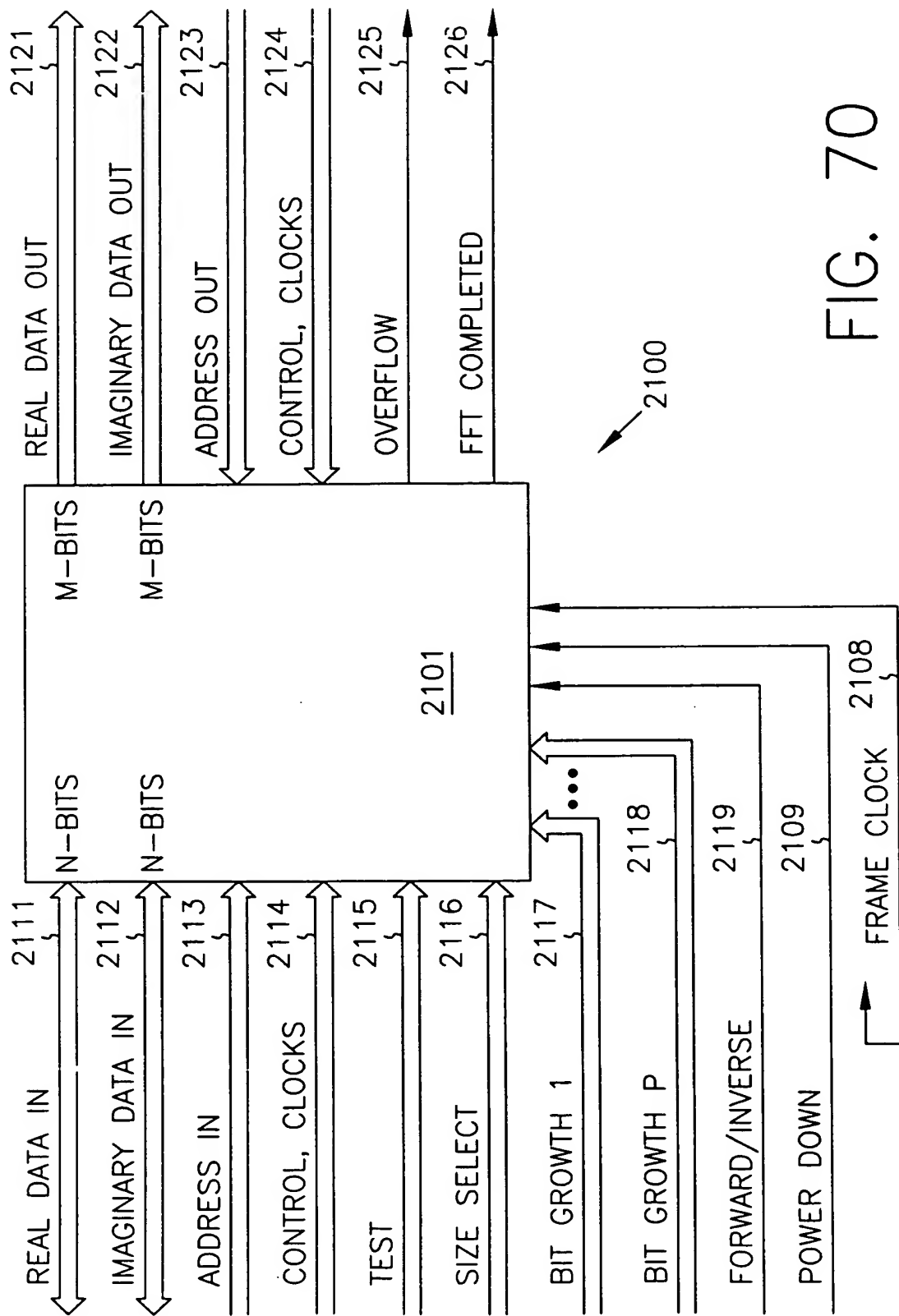


FIG. 70

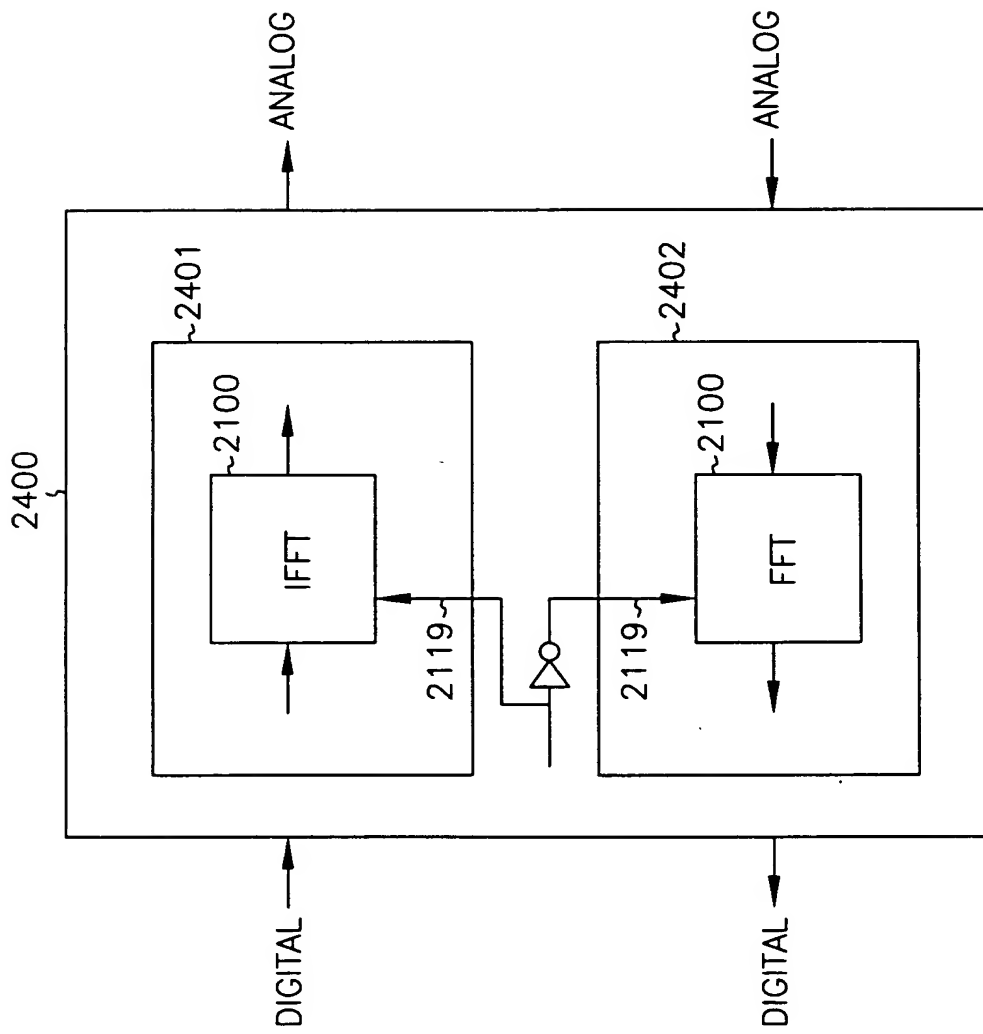


FIG. 71

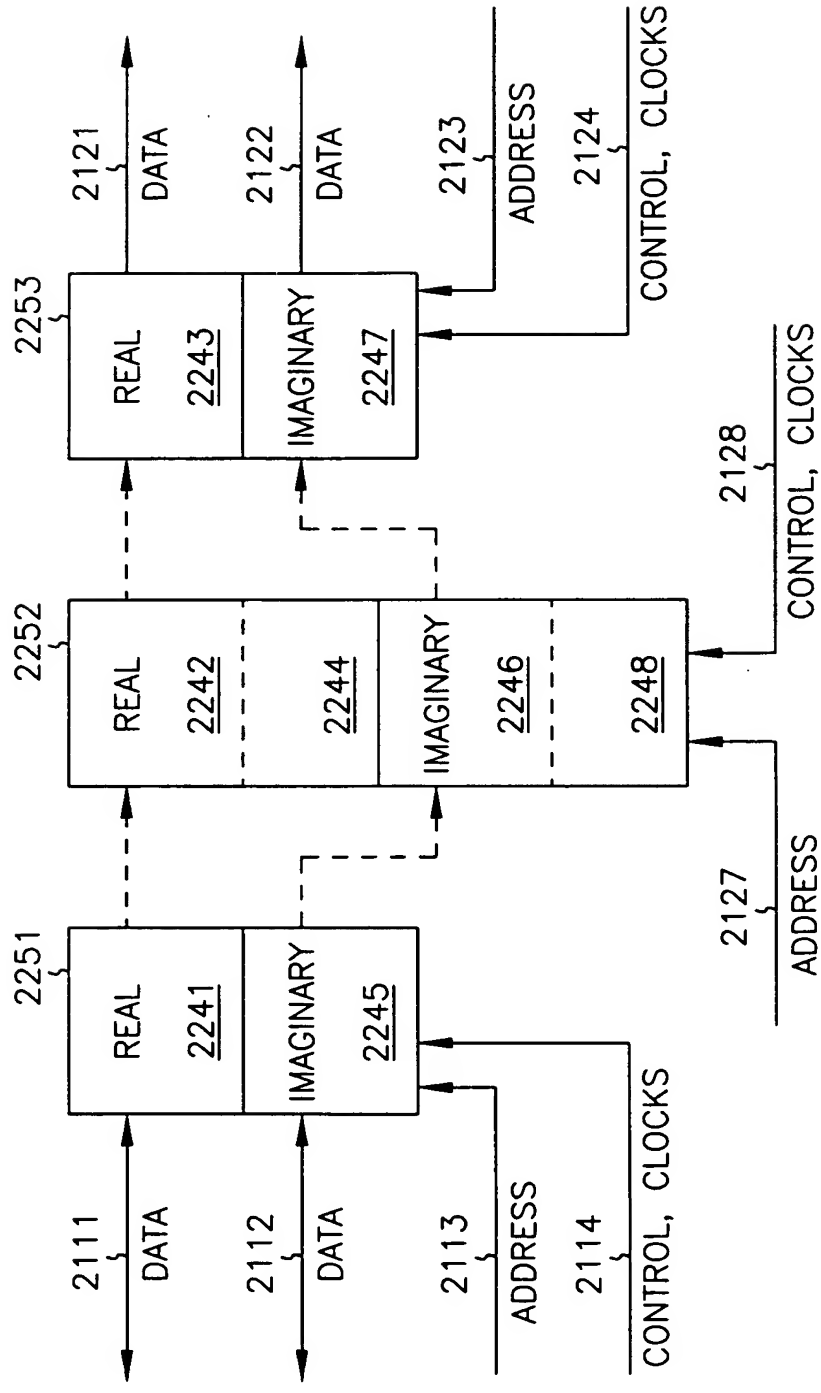


FIG. 72



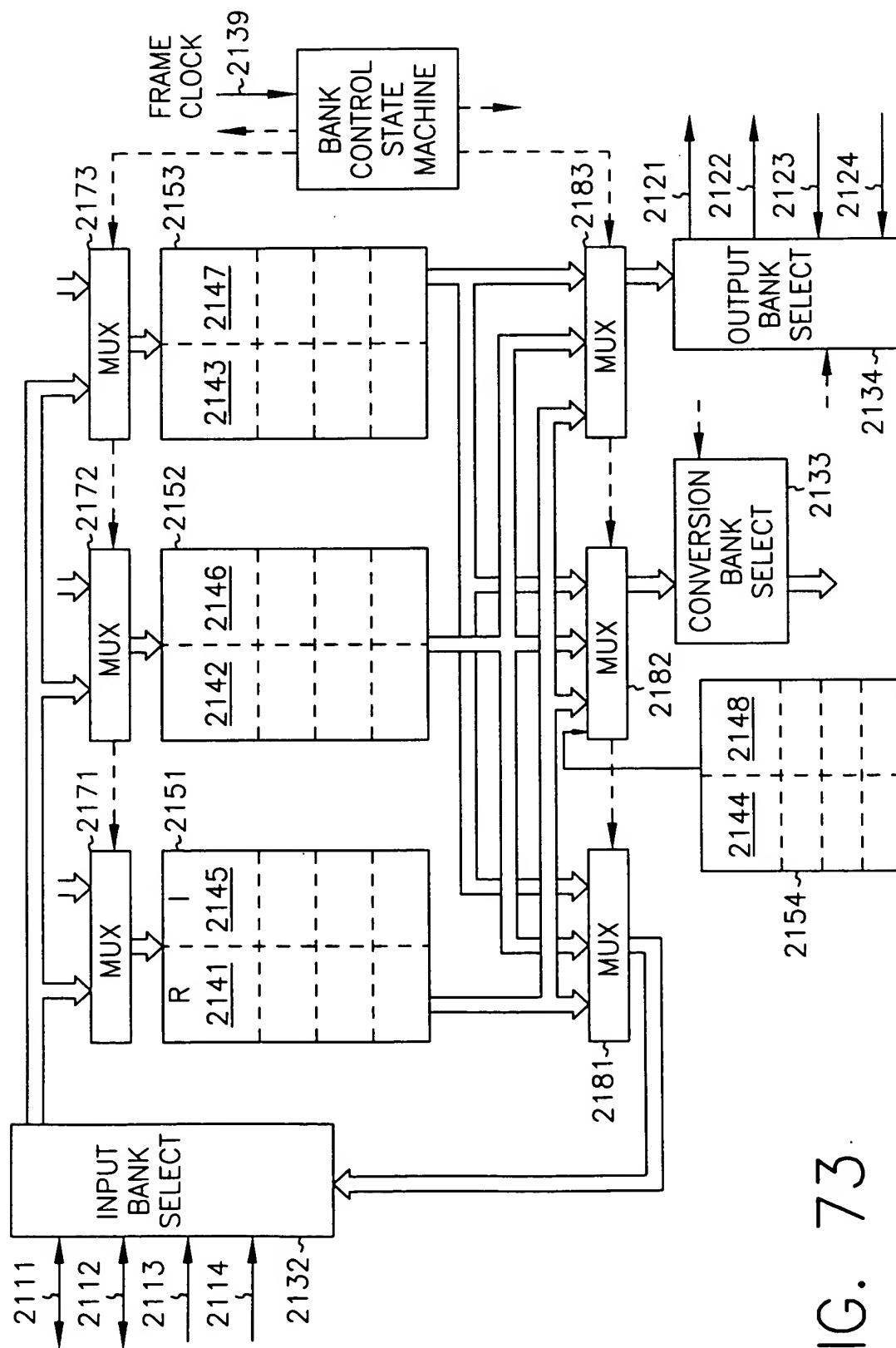
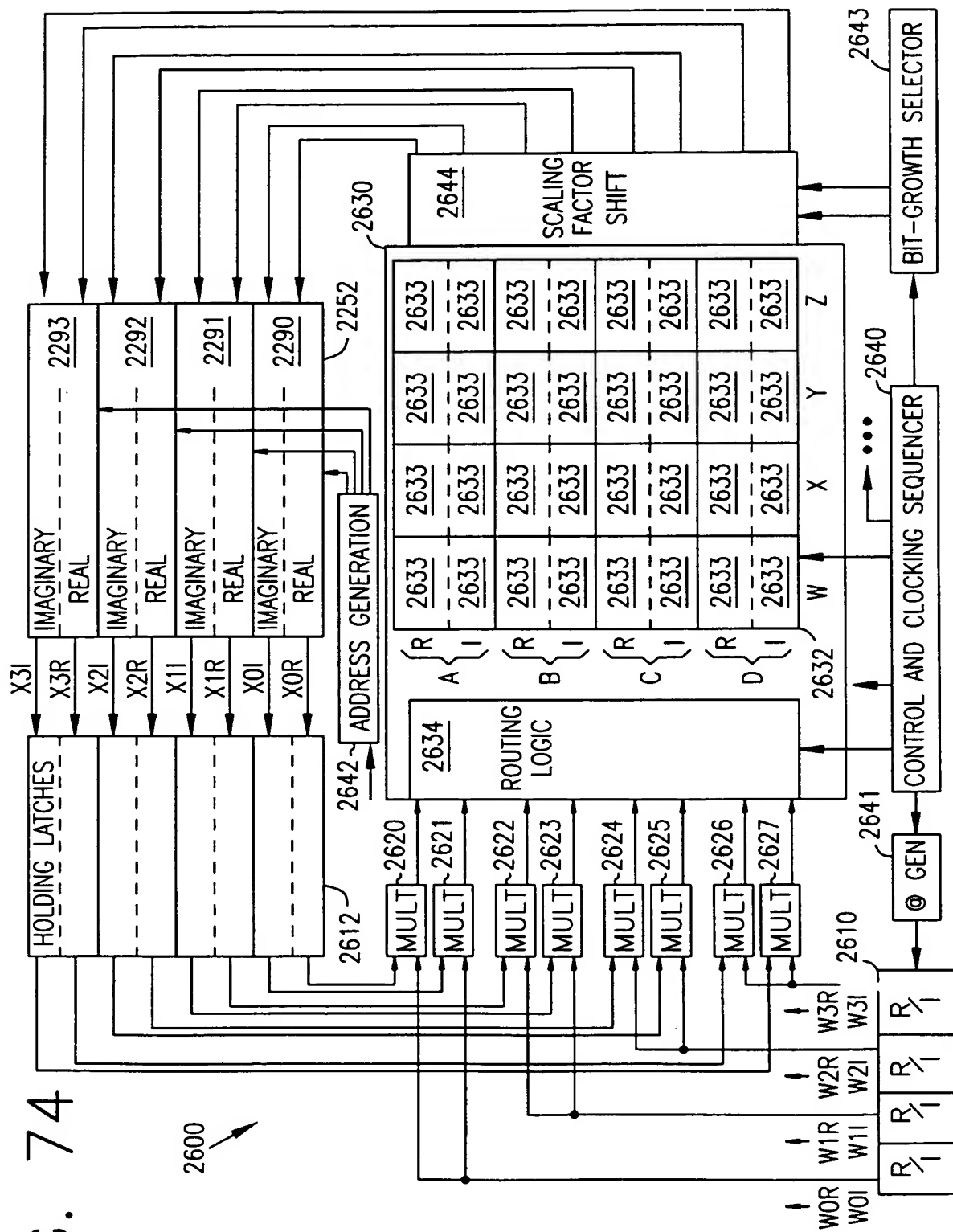


FIG. 73



THIS TABLE SHOWS THE ORDER OF CALCULATION FOR A TRANSPOSED BUTTERFLY:

CO

AWR=WR AWI=WI	AXR=XR AXI=XI	AYR=YR AYI=YI	AZR=ZR AZI=ZI
BWR=WR BWI=WI	BXR=XR BXI=XI	BYR=YR BYI=YI	BZR=ZR BZI=ZI
CWR=WR CWI=WI	CXR=XR CXI=XI	CYR=YR CYI=YI	CZR=ZR CZI=ZI
DWR=WR DWI=WI	DXR=XR DXI=XI	DYR=YR DYI=YI	DZR=ZR DZI=ZI

FIG. 75

CI

AWR=AWR - WI AWI=AWI + WR	AXR=AXR - XI AXI=AXI + XR	AYR=AYR - YI AYI=AYI + YR	AZR=AZR - ZI AZI=AZI + ZR
BWR=BWR - WI BWI=BWI + WR	BXR=BXR - XI BXI=BXI + XR	BYR=BYR - YI BYI=BYI + YR	BZR=BZR - ZI BZI=BZI + ZR
CWR=CWR - WI CWI=CWI + WR	CXR=CXR - XI CXI=CXI + XR	CYR=CYR - YI CYI=CYI + YR	CZR=CZR - ZI CZI=CZI + ZR
DWR=DWR - WI DWI=DWI + WR	DXR=DXR - XI DXI=DXI + XR	DYR=DYR - YI DYI=DYI + YR	DZR=DZR - ZI DZI=DZI + ZR

FIG. 76

C2

~2632

AWR=AWR +WR AWI=AWI +WI	AXR=AXR +XI AXI=AXI -XR	AYR=AYR -YR AYI=AYI -YI	AZR=AZR -ZI AZI=AZI +ZR
BWR=BWR +WR BWI=BWI +WI	BXR=BXR +XI BXI=BXI -XR	BYR=BYR -YR BYI=BYI -YI	BZR=BZR -ZI BZI=BZI +ZR
CWR=CWR +WR CWI=CWI +WI	CXR=CXR +XI CXI=CXI -XR	CYR=CYR -YR CYI=CYI -YI	CZR=CZR -ZI CZI=CZI +ZR
DWR=DWR +WR DWI=DWI +WI	DXR=DXR +XI DXI=DXI -XR	DYR=DYR -YR DYI=DYI -YI	DZR=DZR -ZI DZI=DZI +ZR

2800

FIG. 77

C3

~2632

AWR=AWR -WI AWI=AWI +WR	AXR=AXR +XR AXI=AXI +XI	AYR=AYR +YI AYI=AYI -YR	AZR=AZR -ZR AZI=AZI -ZI
BWR=BWR -WI BWI=BWI +WR	BXR=BXR +XR BXI=BXI +XI	BYR=BYR +YI BYI=BYI -YR	BZR=BZR -ZR BZI=BZI -ZI
CWR=CWR -WI CWI=CWI +WR	CXR=CXR +XR CXI=CXI +XI	CYR=CYR +YI CYI=CYI -YR	CZR=CZR -ZR CZI=CZI -ZI
DWR=DWR -WI DWI=DWI +WR	DXR=DXR +XR DXI=DXI +XI	DYR=DYR +YI DYI=DYI -YR	DZR=DZR -ZR DZI=DZI -ZI

2800

FIG. 78

C4

~2632

AWR=AWR +WR AWI=AWI +WI	AXR=AXR -XR AXI=AXI -XI	AYR=AYR +YR AYI=AYI +YI	AZR=AZR -ZR AZI=AZI -ZI
BWR=BWR +WR BWI=BWI +WI	BXR=BXR -XR BXI=BXI -XI	BYR=BYR +YR BYI=BYI +YI	BZR=BZR -ZR BZI=BZI -ZI
CWR=CWR +WR CWI=CWI +WI	CXR=CXR -XR CXI=CXI -XI	CYR=CYR +YR CYI=CYI +YI	CZR=CZR -ZR CZI=CZI -ZI
DWR=DWR +WR DWI=DWI +WI	DXR=DXR -XR DXI=DXI -XI	DYR=DYR +YR DYI=DYI +YI	DZR=DZR -ZR DZI=DZI -ZI

2800

FIG. 79

C5

~2632

AWR=AWR -WI AWI=AWI +WR	AXR=AXR +XI AXI=AXI -XR	AYR=AYR -YI AYI=AYI +YR	AZR=AZR +ZI AZI=AZI -ZR
BWR=BWR -WI BWI=BWI +WR	BXR=BXR +XI BXI=BXI -XR	BYR=BYR -YI BYI=BYI +YR	BZR=BZR +ZI BZI=BZI -ZR
CWR=CWR -WI CWI=CWI +WR	CXR=CXR +XI CXI=CXI -XR	CYR=CYR -YI CYI=CYI +YR	CZR=CZR +ZI CZI=CZI -ZR
DWR=DWR -WI DWI=DWI +WR	DXR=DXR +XI DXI=DXI -XR	DYR=DYR -YI DYI=DYI +YR	DZR=DZR +ZI DZI=DZI -ZR

2800

FIG. 80

C6

C6	AWR=AWR +WR AWI=AWI +WI	AXR=AXR -XI AXI=AXI +XR	AYR=AYR -YR AYI=AYI -YI	AZR=AZR +ZI AZI=AZI -ZR
	BWR=BWR +WR BWI=BWI +WI	BXR=BXR -XI BXI=BXI +XR	BYR=BYR -YR BYI=BYI -YI	BZR=BZR +ZI BZI=BZI -ZR
	CWR=CWR +WR CWI=CWI +WI	CXR=CXR -XI CXI=CXI +XR	CYR=CYR -YR CYI=CYI -YI	CZR=CZR +ZI CZI=CZI -ZR
	DWR=DWR +WR DWI=DWI +WI	DXR=DXR -XI DXI=DXI +XR	DYR=DYR -YR DYI=DYI -YI	DZR=DZR +ZI DZI=DZI -ZR

~2632

2800

FIG. 81

C7

C7	AWR=AWR -WI AWI=AWI +WR	AXR=AXR -XR AXI=AXI -XI	AYR=AYR +YI AYI=AYI -YR	AZR=AZR -ZR AZI=AZI +ZI
	BWR=BWR -WI BWI=BWI +WR	BXR=BXR -XR BXI=BXI -XI	BYR=BYR +YI BYI=BYI -YR	BZR=BZR -ZR BZI=BZI +ZI
	CWR=CWR -WI CWI=CWI +WR	CXR=CXR -XR CXI=CXI -XI	CYR=CYR +YI CYI=CYI -YR	CZR=CZR -ZR CZI=CZI +ZI
	DWR=DWR -WI DWI=DWI +WR	DXR=DXR -XR DXI=DXI -XI	DYR=DYR +YI DYI=DYI -YR	DZR=DZR -ZR DZI=DZI +ZI

~2632

2800

FIG. 82

THIS TABLE SHOWS THE ORDER OF CALCULATION FOR A TRANSPOSED BUTTERFLY:

C0

2632

2810

AWR = WR+XR+YR+ZR AWI = WI+XI+YI+ZI	AXR = WR-XI-YR+ZI AXI = WI+XR-YI-ZR	AYR = WR-XR+YR-ZR AYI = WI-XI+YI-ZI	AZR = WR+XI-YR-ZI AZI = WI-XR-YI+ZR
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

FIG. 83

C1

2632

2810

AWR = AWR-(WI+XI+YI+ZI) AWI = AWI+(WR+XR+YR+ZR)	AXR = AXR-(WI+XR-YI-ZR) AXI = AXI+(WR-XI-YR+ZI)	AYR = AYR-(WI-XI+YI-ZI) AYI = AYI+(WR-XR+YR-ZR)	AZR = AZR-(WI-XR-YI+ZR) AZI = AZI+(WR+XI-YR-ZI)
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

FIG. 84

C2	2632				
	-	-	-	-	2810
	-	-	-	-	
	BWR = WR+XR+YR+ZR BWI = WI+XI+YI+ZI	BXR = WR-XI-YR+ZI BXI = WI+XR-YI-ZR	BYR = WR-XR+YR-ZR BYI = WI-XI+YI-ZI	BZR = WR+XI-YR-ZI BZI = WI-XR-YI+ZR	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	
	-	-	-	-	

FIG. 85

C3	-	-	-	-	-	2632
	-	-	-	-	-	
BWR = BWR - (WI + XI + YI + ZI) BWI = BWI + (WR + XR + YR + ZR)	BXR = BXR - (WI + XR - YI - ZR) BXI = BXI + (WR - XI - YR + ZI)	BYR = BYR - (WI - XI + YI - ZI) BYI = BYI + (WR - XR + YR - ZR)	BZR = BZR - (WI - XR - YI + ZR) BZI = BZI + (WR + XI - YR - ZI)	2810		
-	-	-	-			
-	-	-	-	2810		
-	-	-	-			
-	-	-	-	2632		
-	-	-	-			

FIG. 86



C4

2632

2810

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
CWR = WR+XR+YR+ZR CWI = WI+XI+YI+ZI	CXR = WR-XI-YR+ZI CXI = WI+XR-YI-ZR	CYR = WR-XR+YR-ZR CYI = WI-XI+YI-ZI	CZR = WR+XI-YR-ZI CZI = WI-XR-YI+ZR	
-	-	-	-	-
-	-	-	-	-

FIG. 87

C5

2632

2810

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
CWR = CWR-(WI+XI+YI+ZI) CWI = CWI+(WR+XR+YR+ZR)	CXR = CXR-(WI+XR-YI-ZR) CXI = CXI+(WR-XI-YR+ZI)	CYR = CYR-(WI-XI+YI-ZI) CYI = CYI+(WR-XR+YR-ZR)	CZR = CZR-(WI-XR-YI+ZR) CZI = CZI+(WR+XI-YR-ZI)	
-	-	-	-	-
-	-	-	-	-

FIG. 88

C6

2632

2810

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
DWR = WR+XR+YR+ZR DWI = WI+XI+YI+ZI	DXR = WR-XI-YR+ZI DXI = WI+XR-YI-ZR	DYR = WR-XR+YR-ZR DYI = WI-XI+YI-ZI	DZR = WR+XI-YR-ZI DZI = WI-XR-YI+ZR	

FIG. 89

C7

2632

2810

-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
DWR = DWR-(WI+XI+YI+ZI) DWI = DWI+(WR+XR+YR+ZR)	DXR = DXR-(WI+XR-YI-ZR) DXI = DXI+(WR-XI-YR+ZI)	DYR = DYR-(WI-XI+YI-ZI) DYI = DYI+(WR-XR+YR-ZR)	DZR = DZR-(WI-XR-YI+ZR) DZI = DZI+(WR+XI-YR-ZI)	

FIG. 90

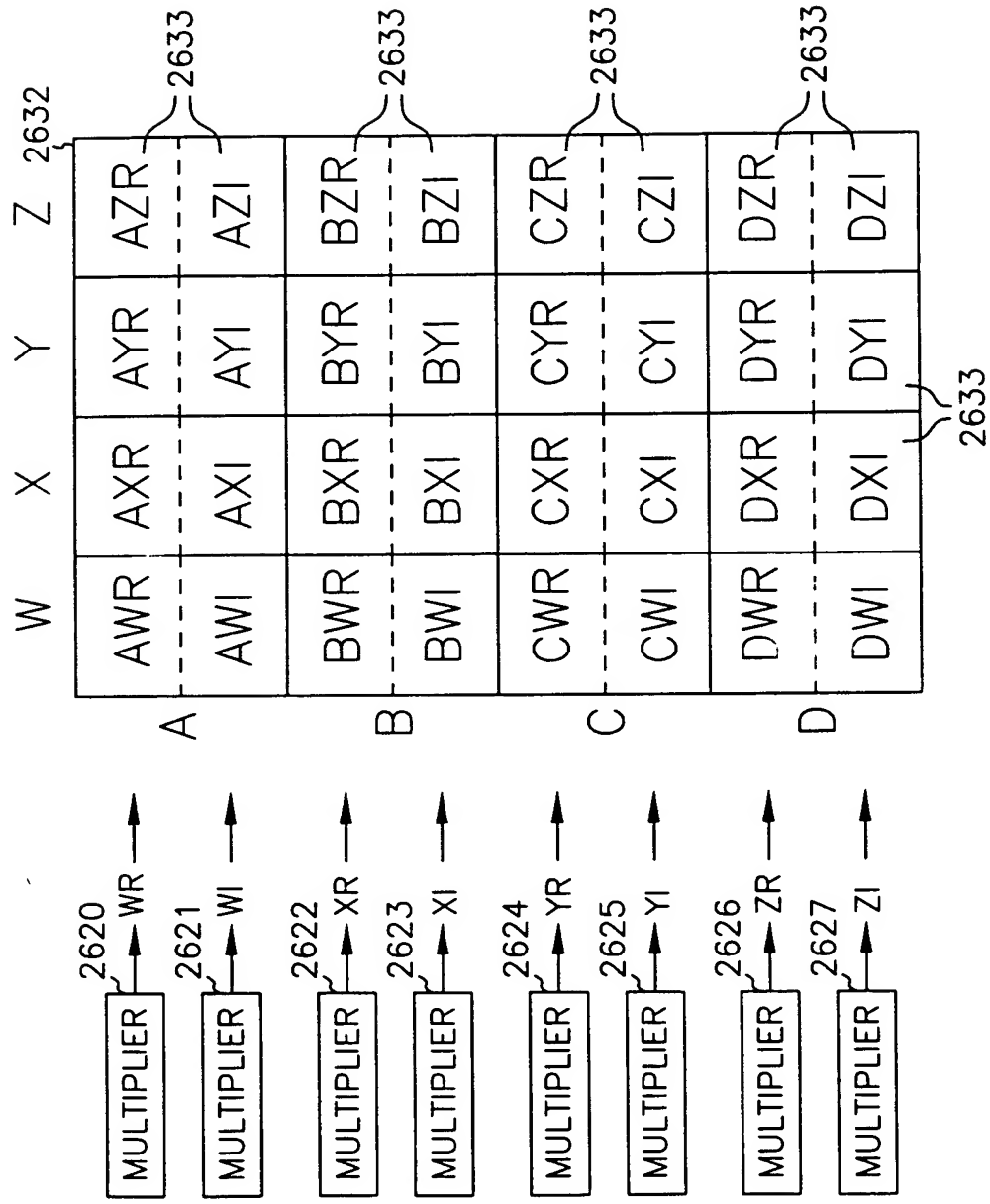


FIG. 91

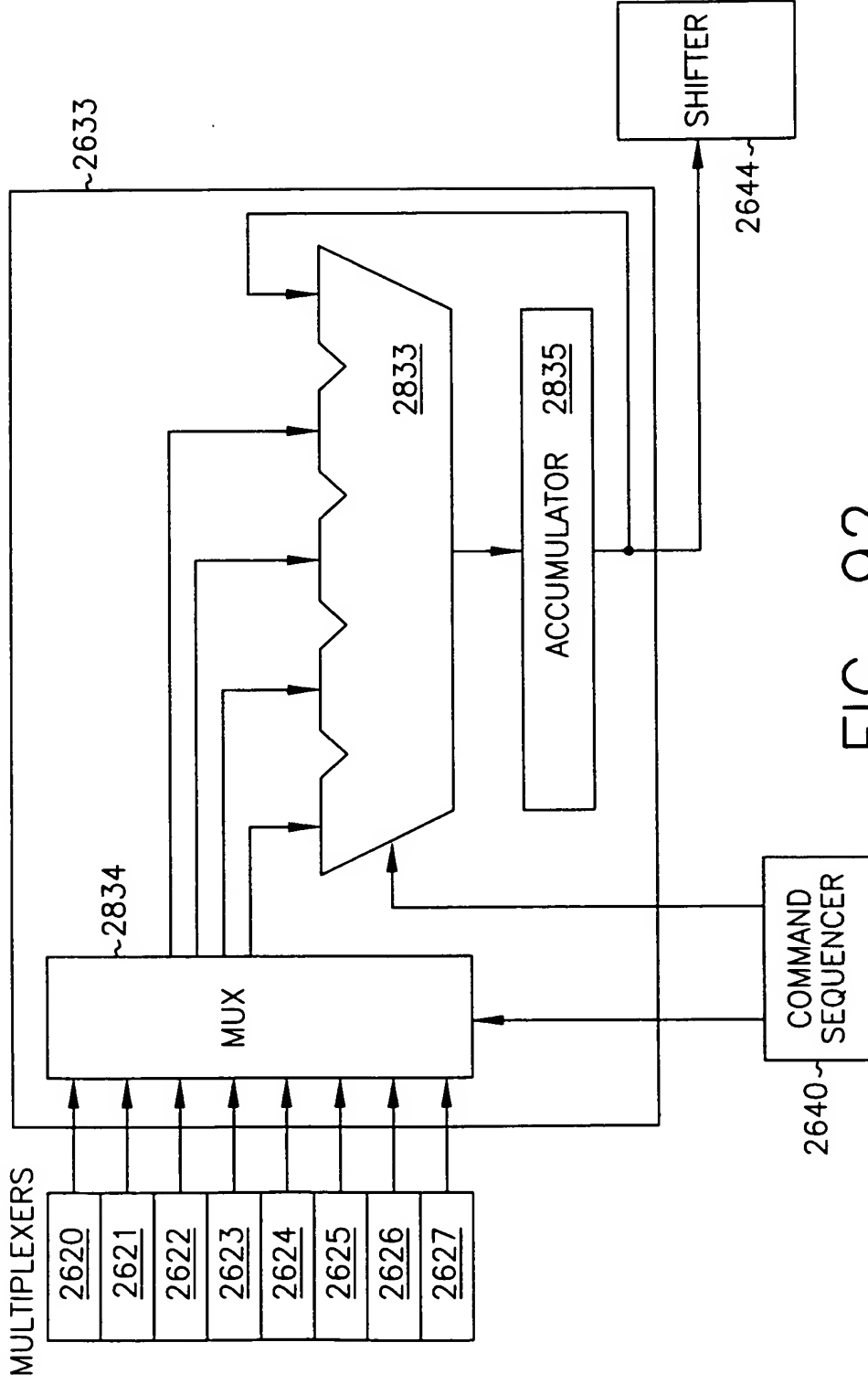


FIG. 92

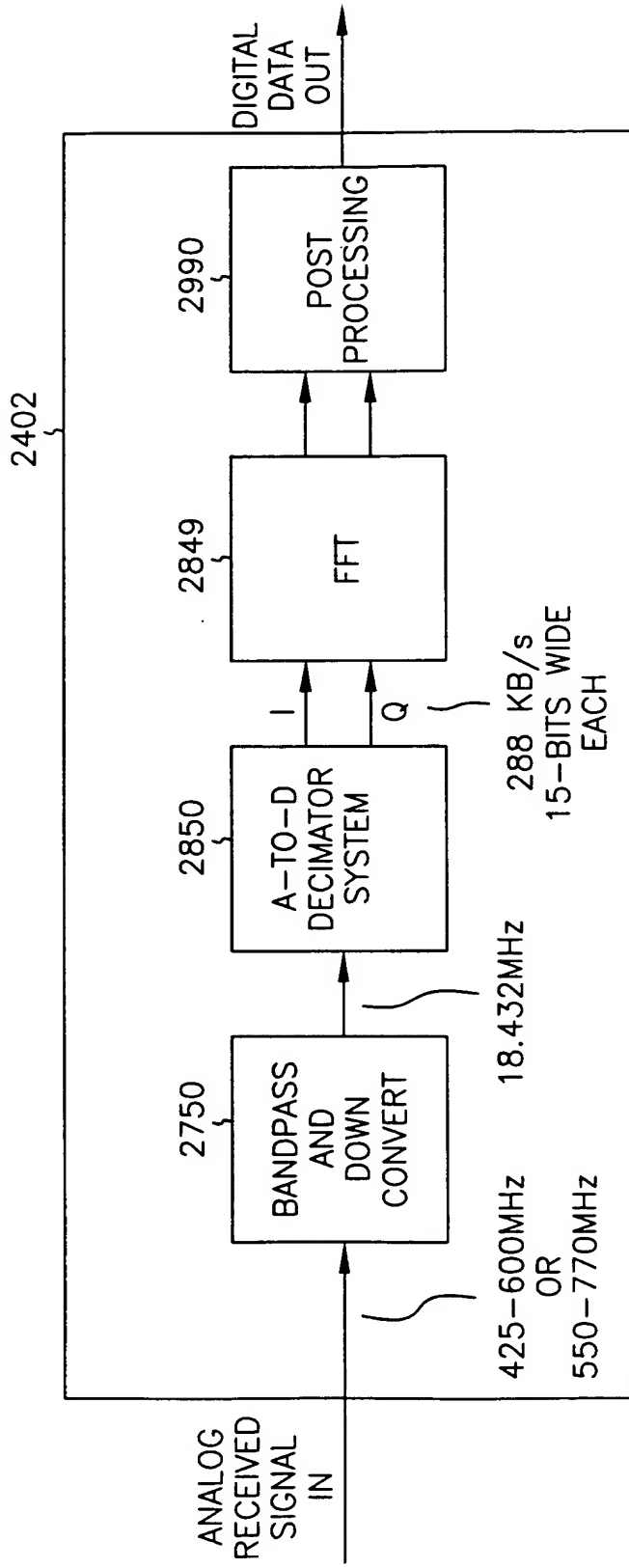


FIG. 93

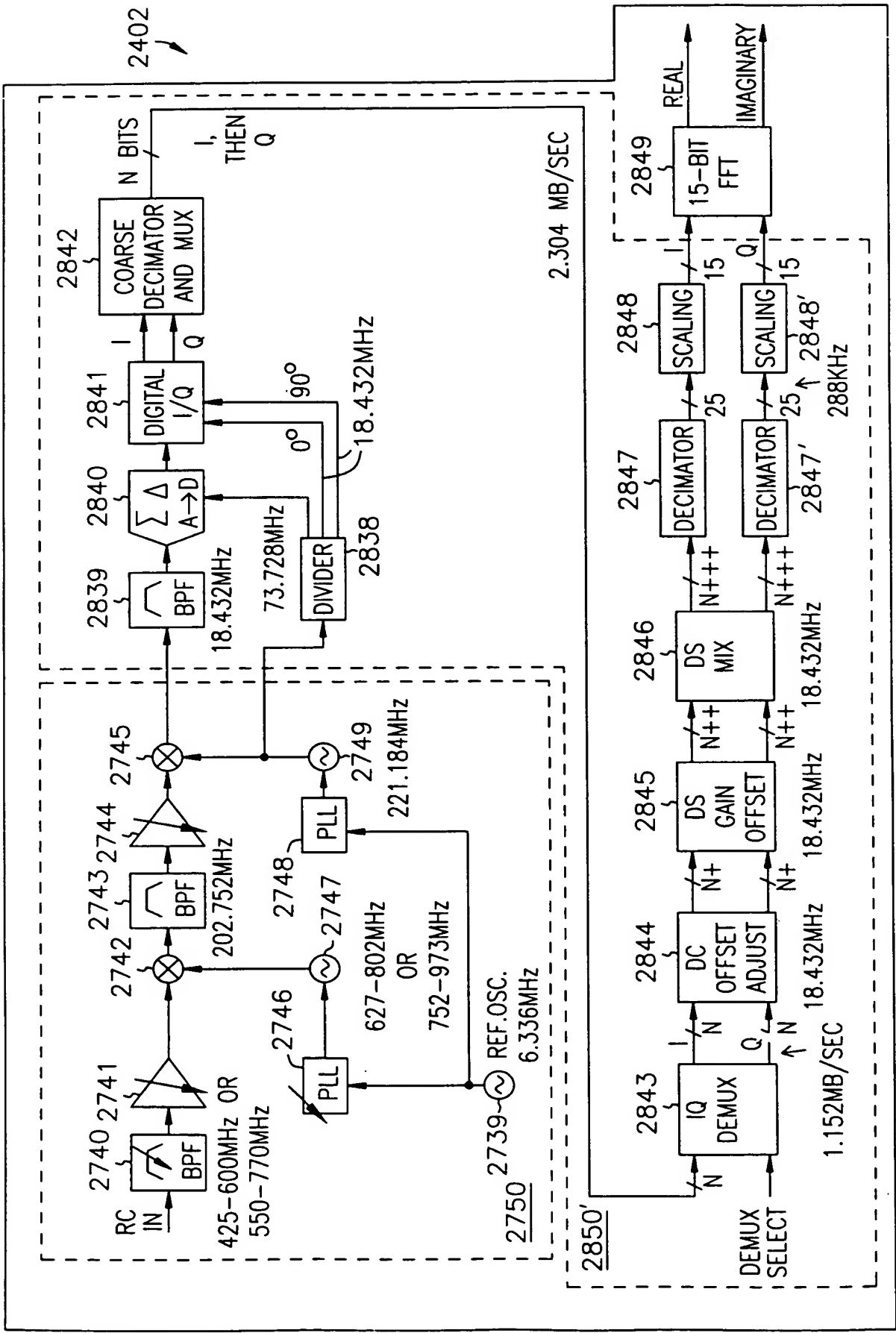


FIG. 94

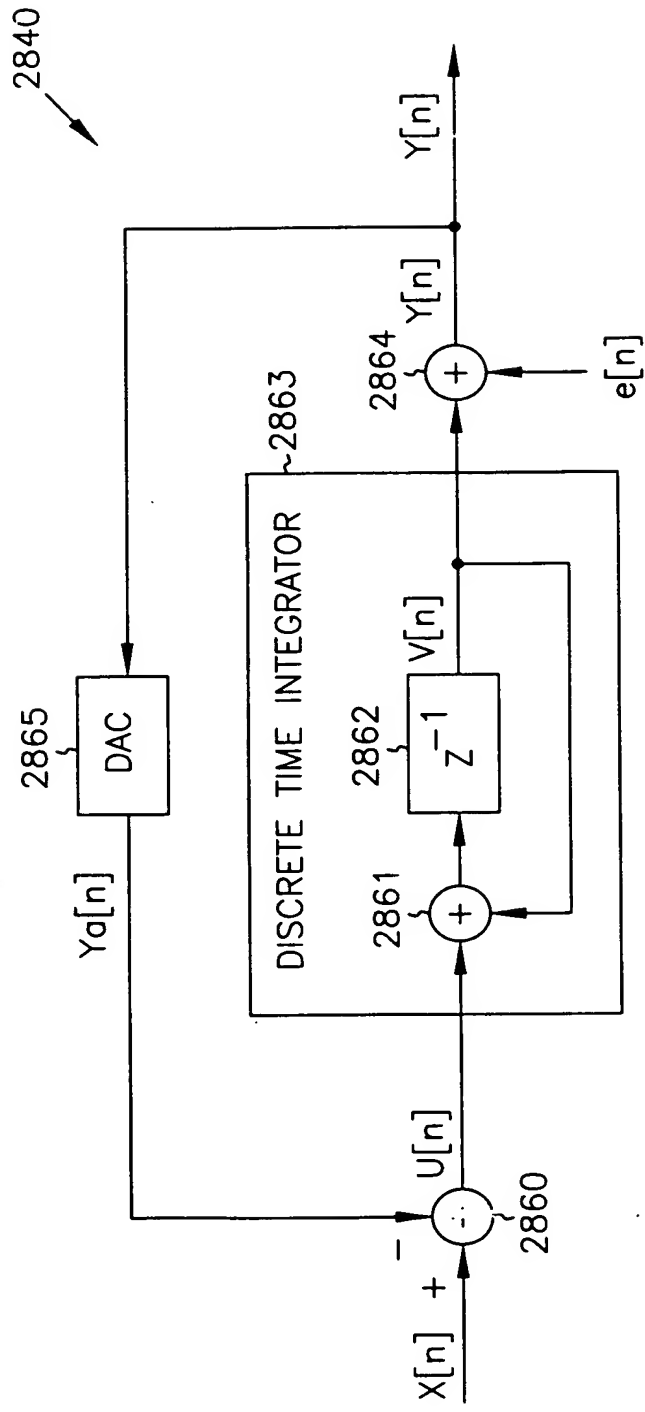
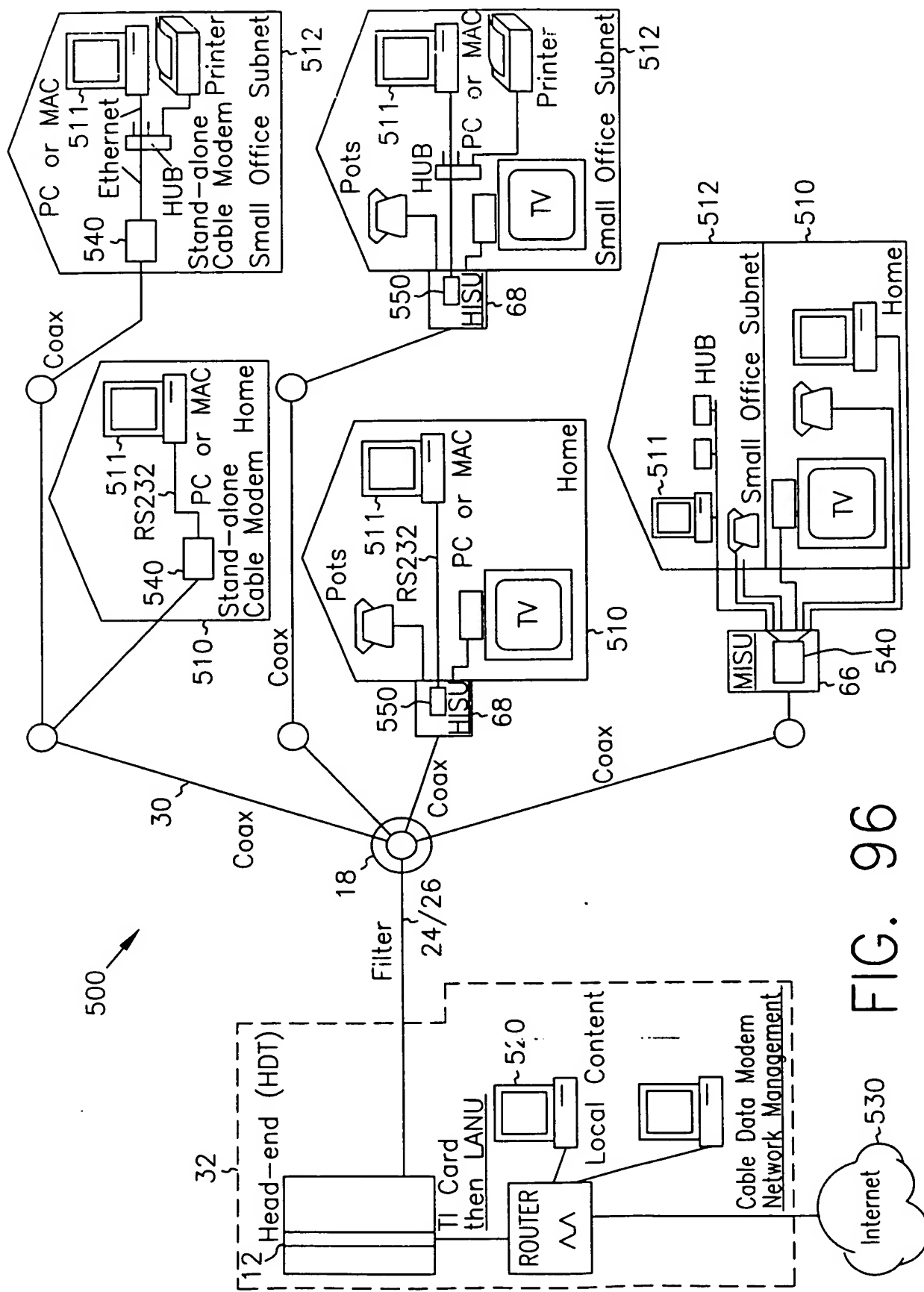


FIG. 95





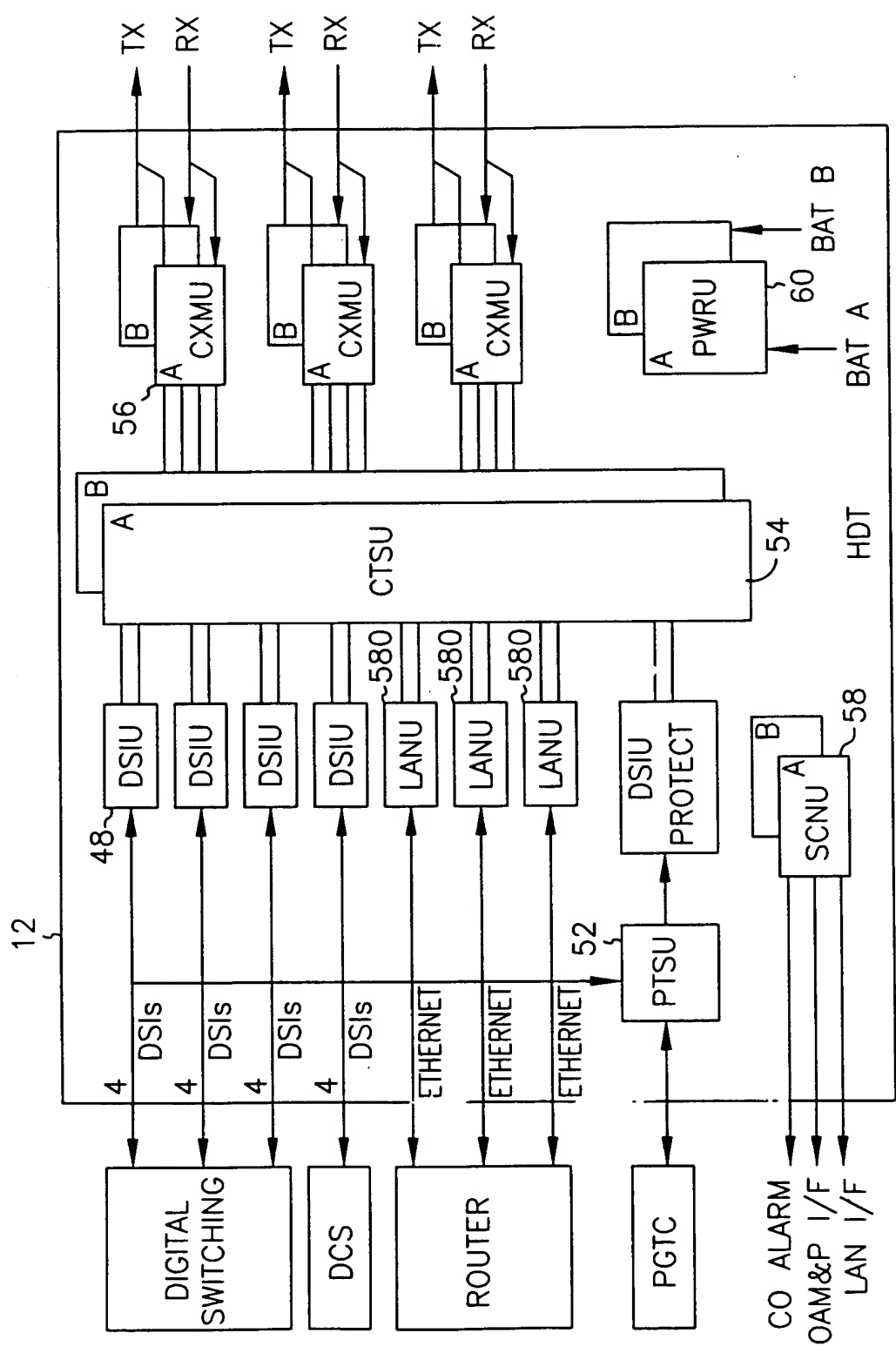


FIG. 97

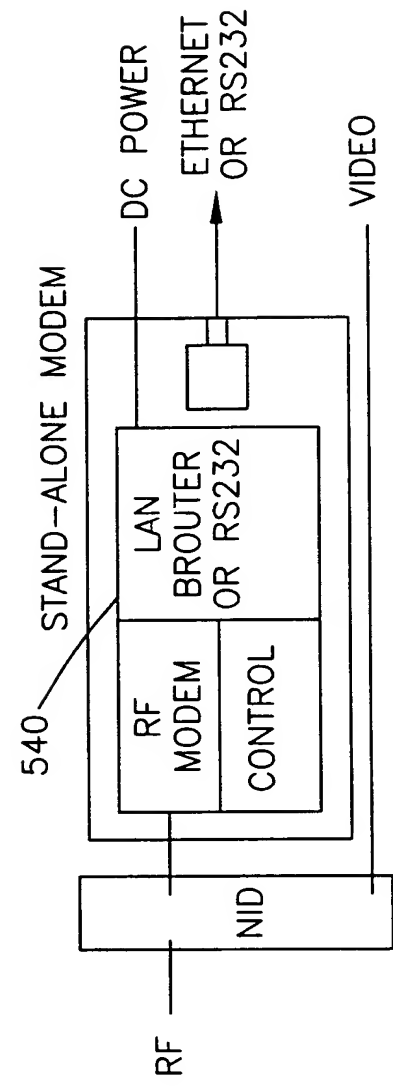
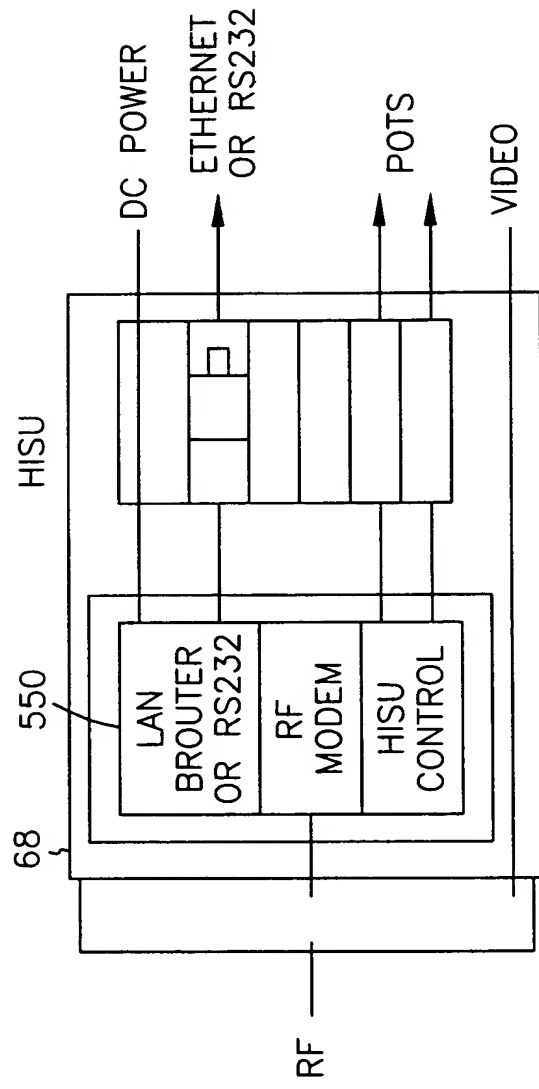


FIG. 98

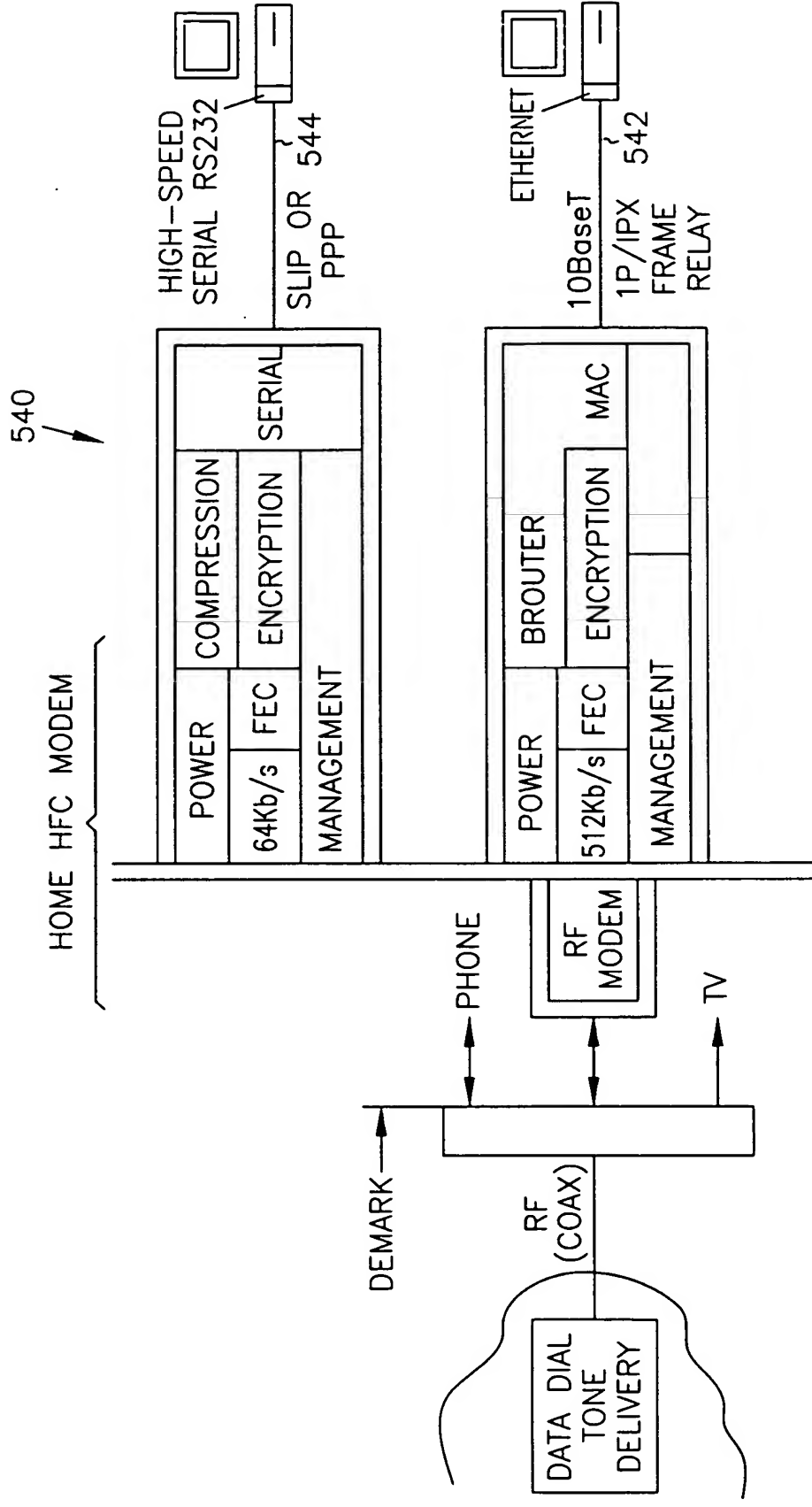


FIG. 99

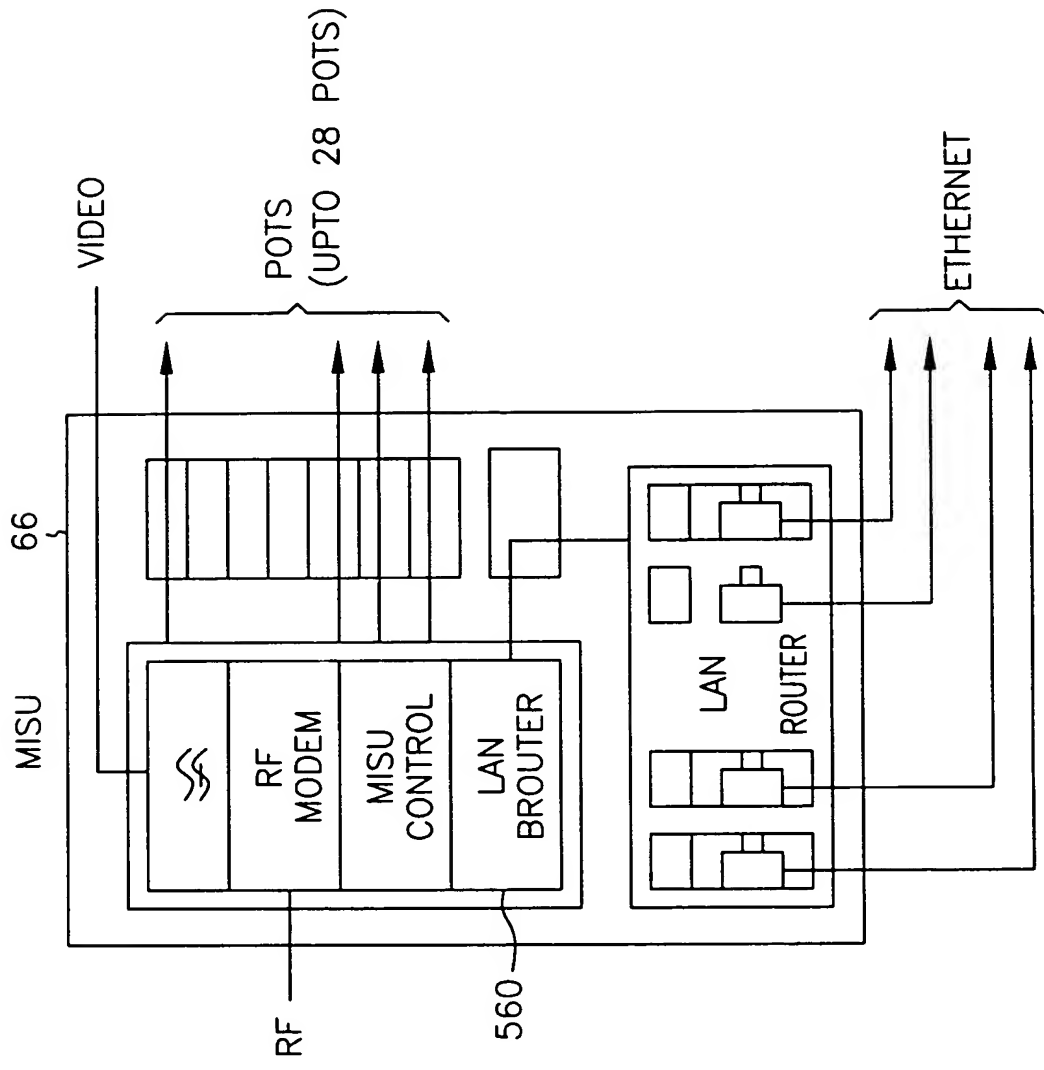


FIG. 100

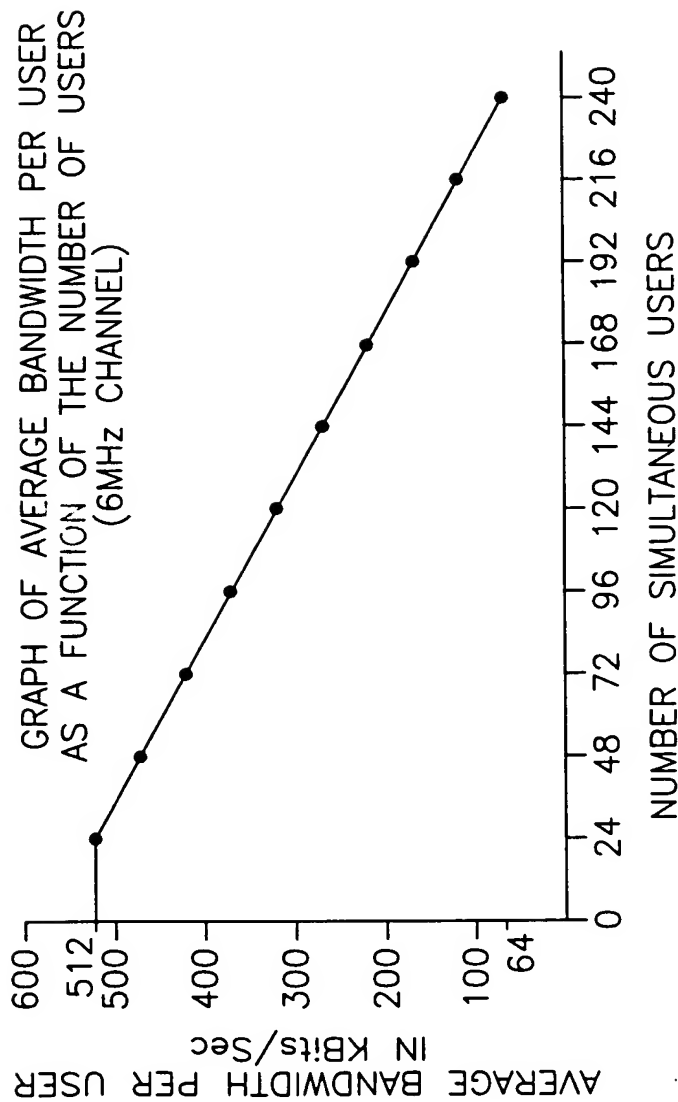
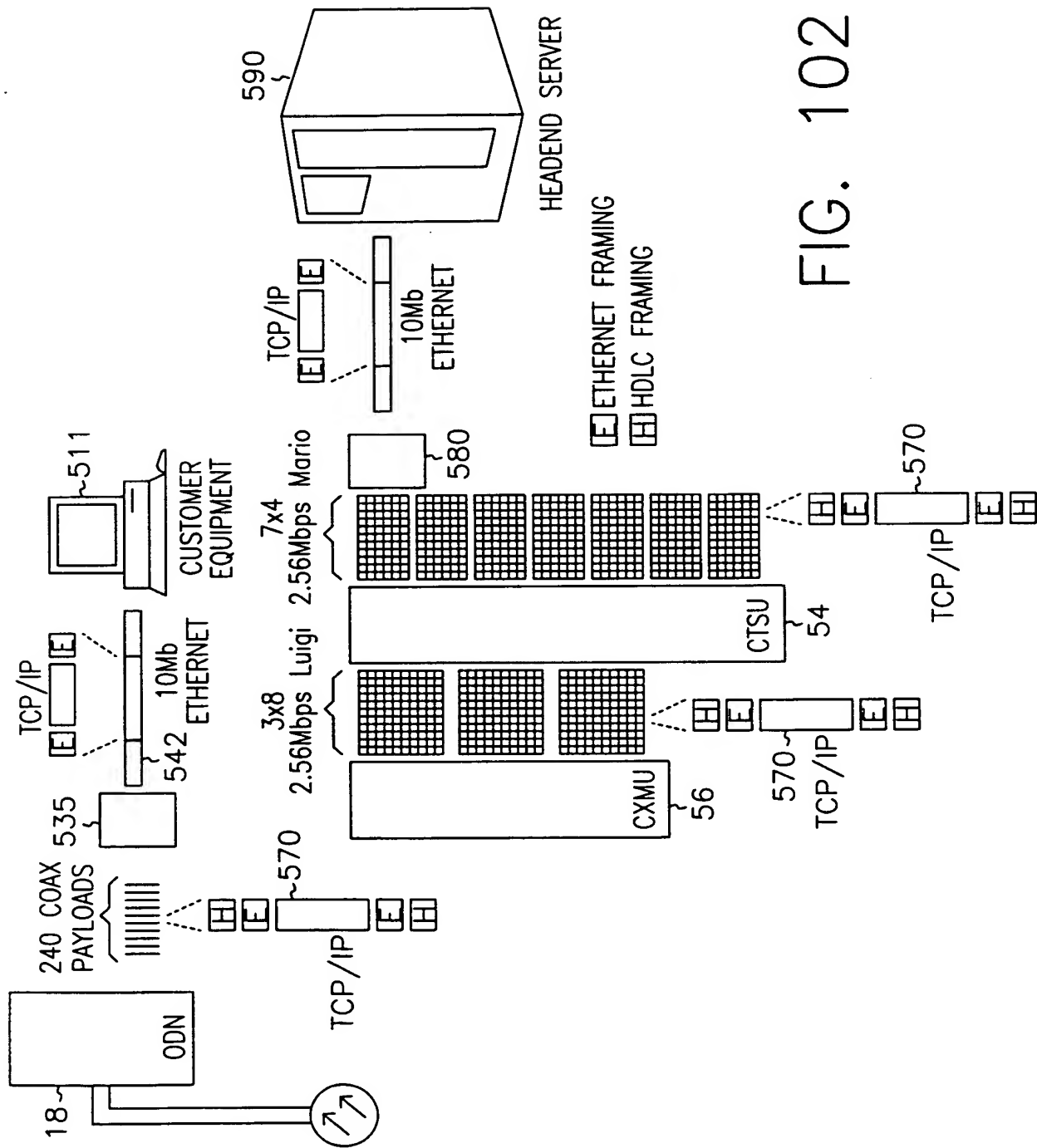


FIG. 101



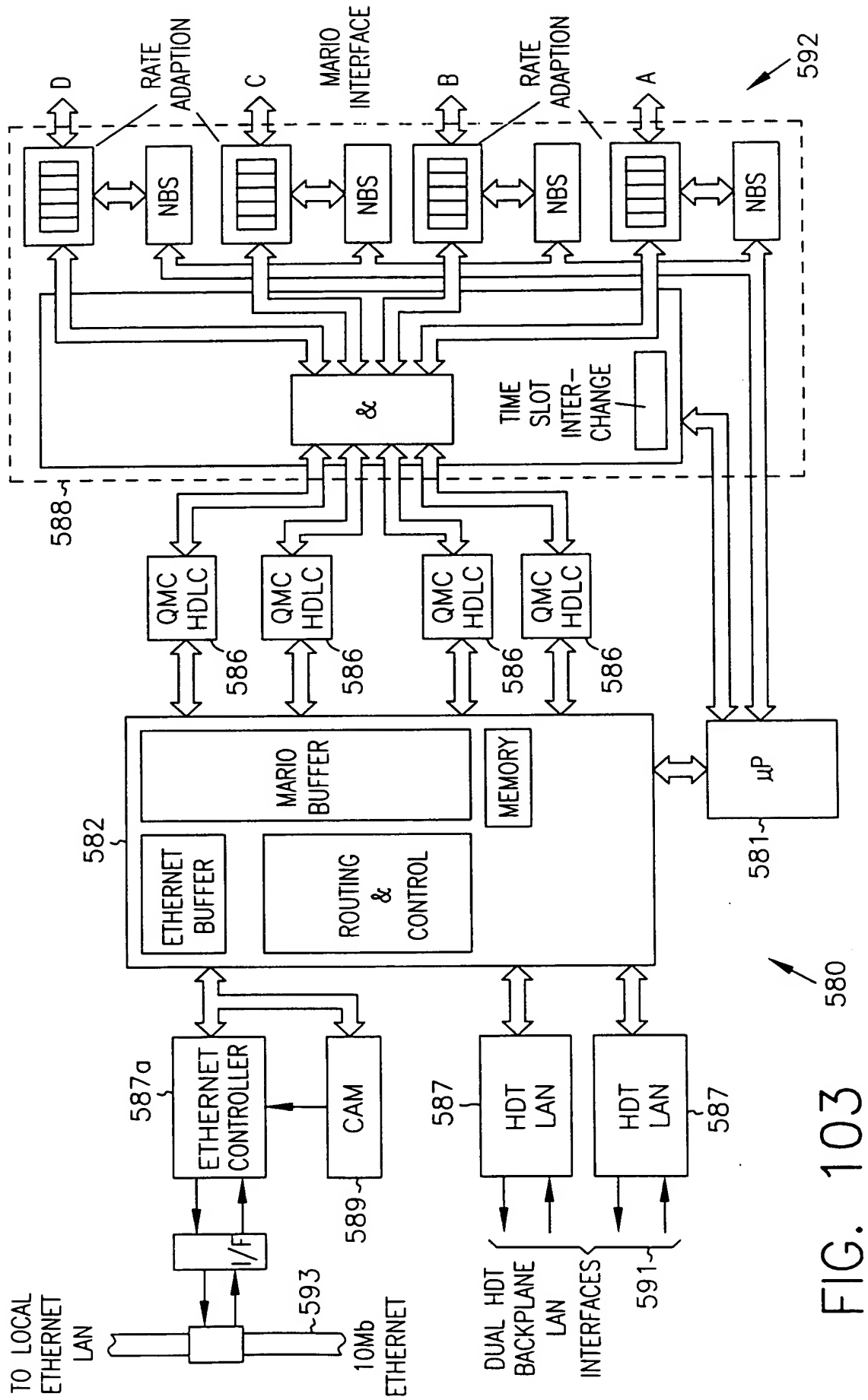


FIG. 103

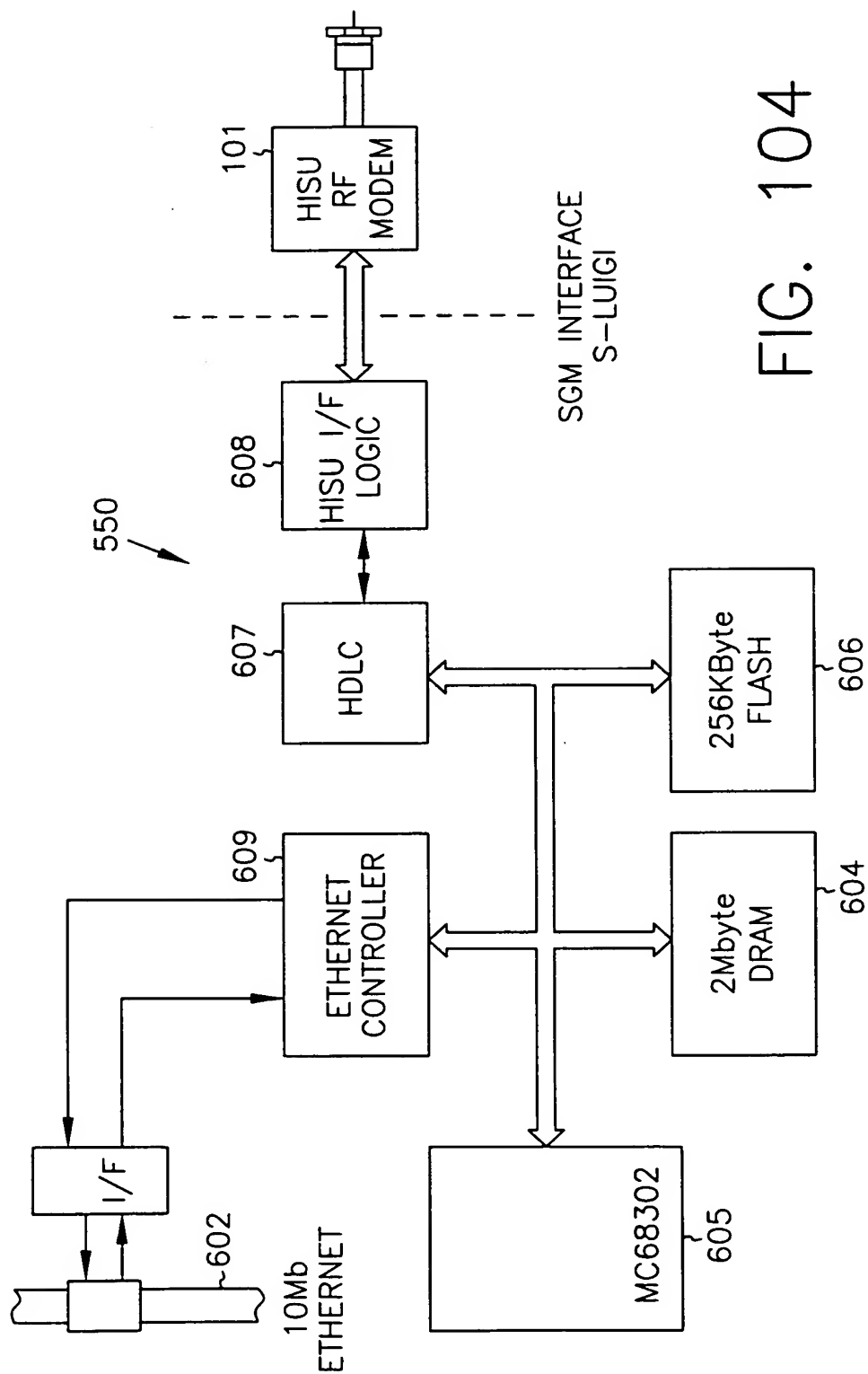


FIG. 104



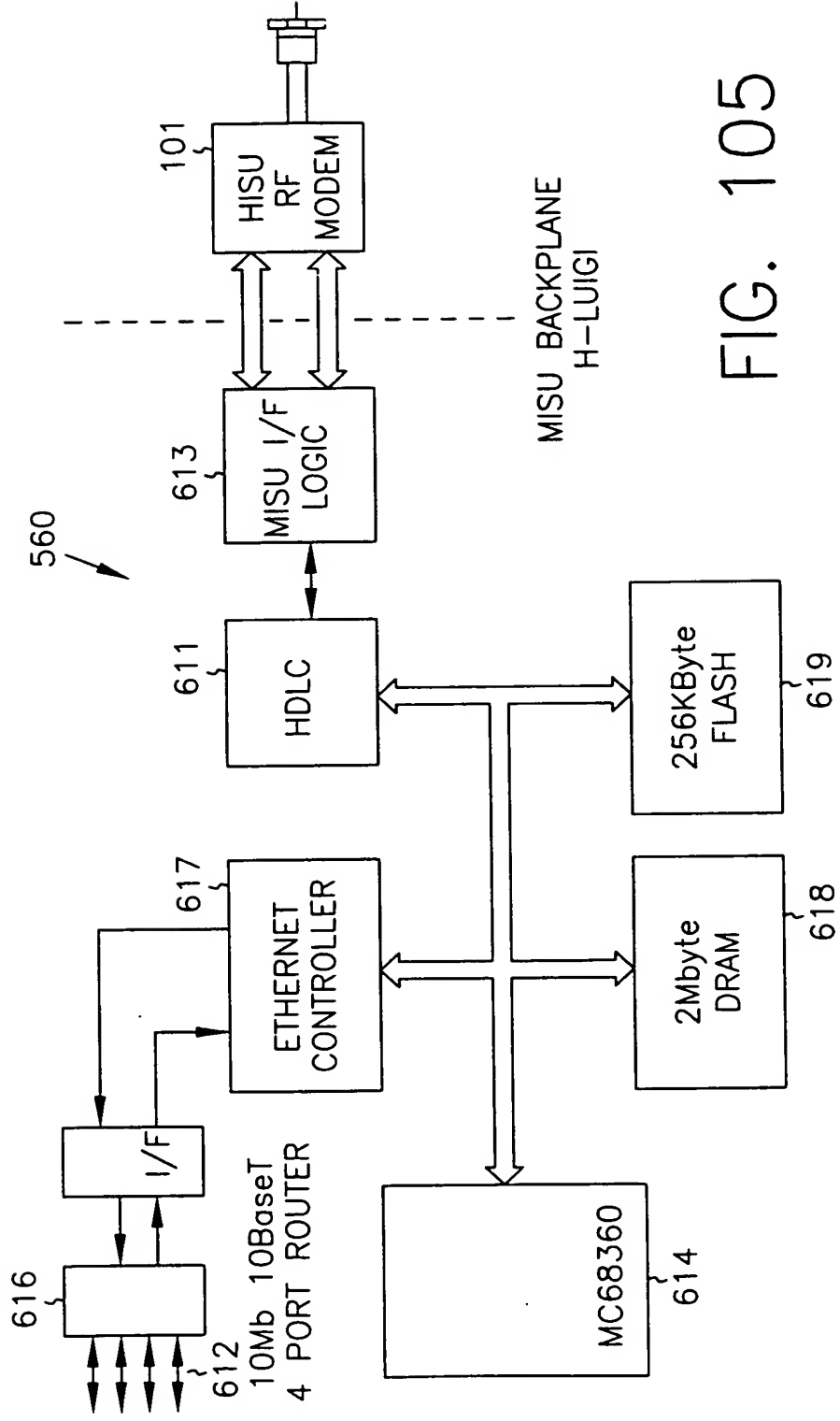


FIG. 105

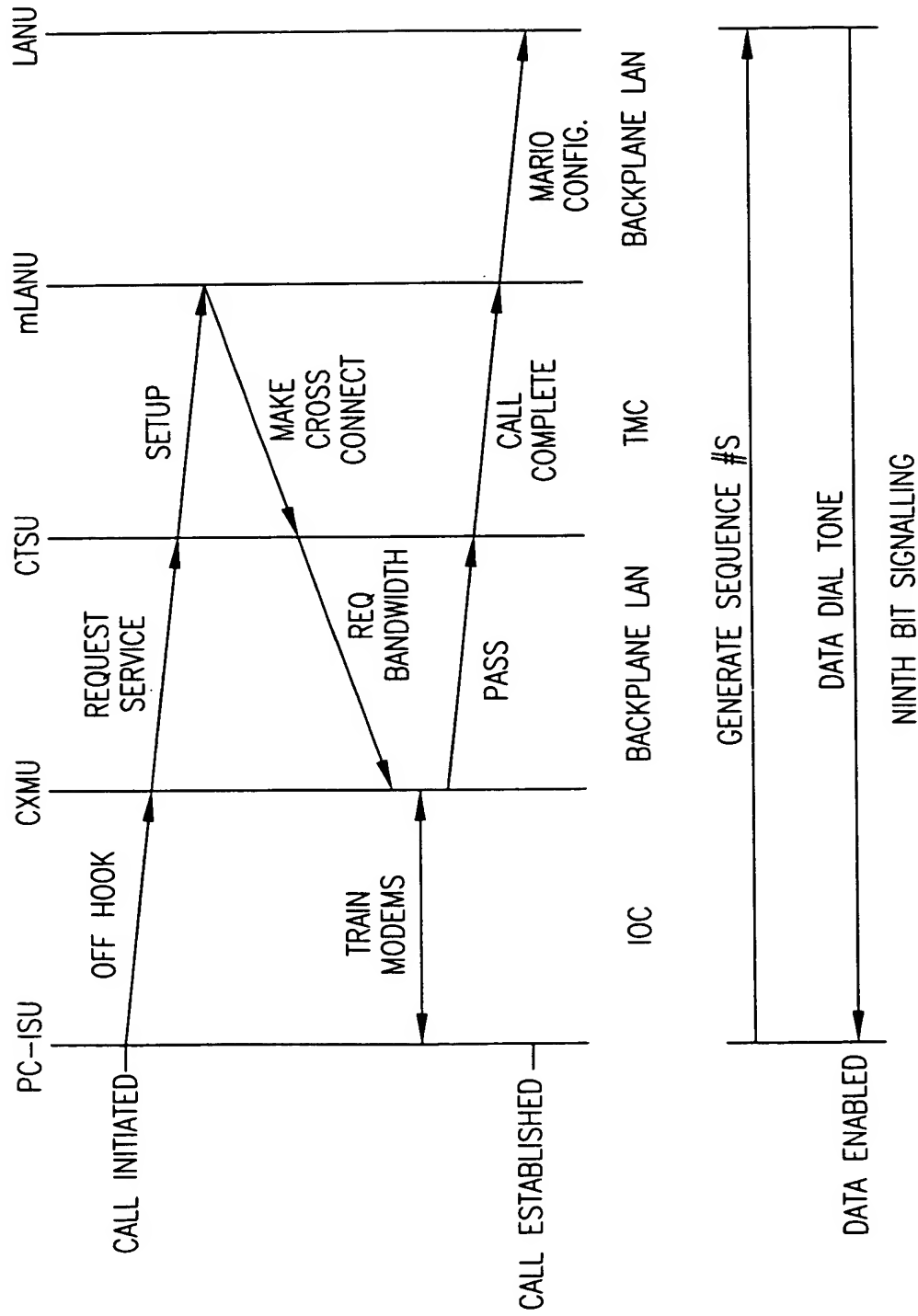


FIG. 106

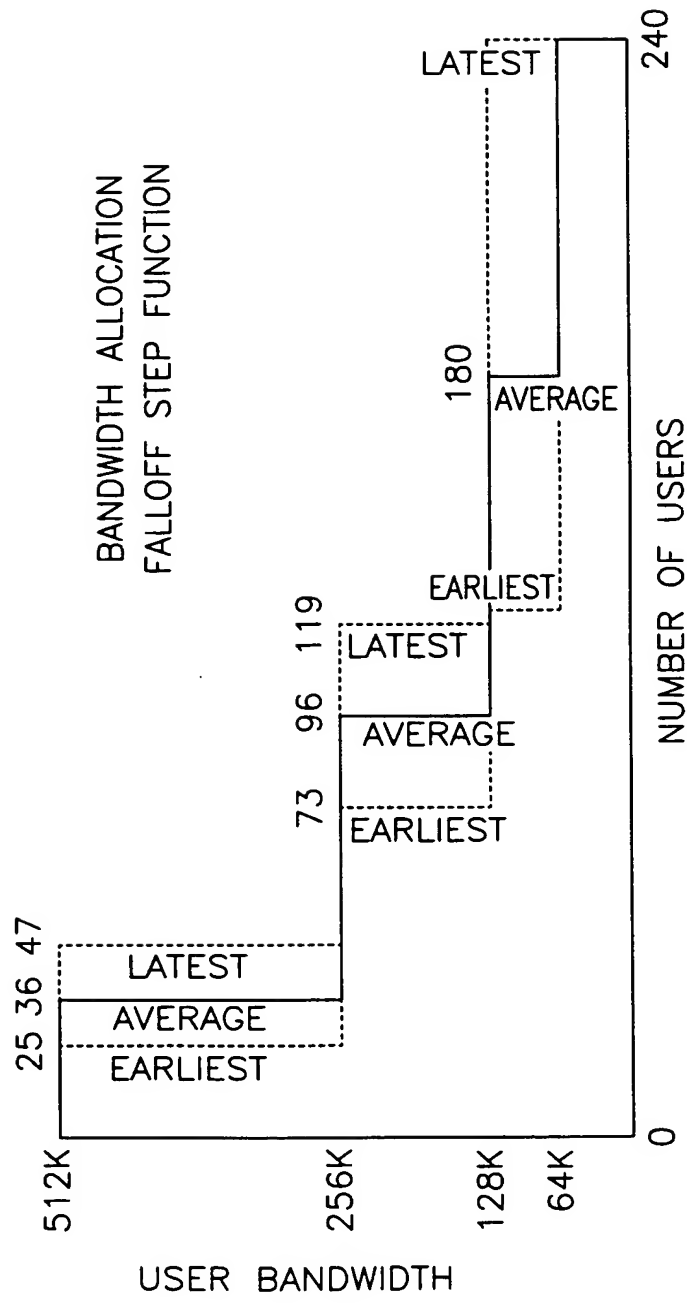
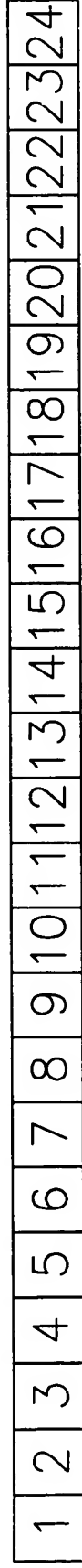
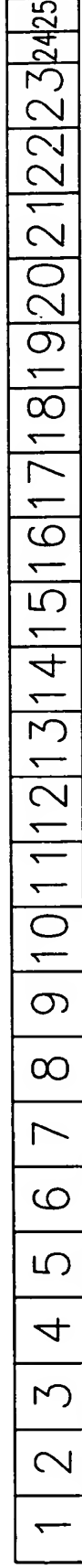


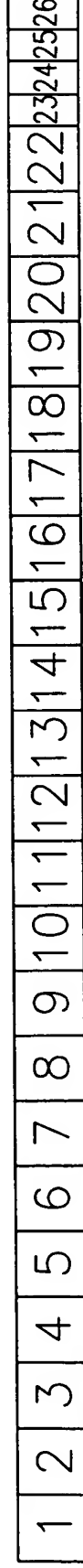
FIG. 107



THE RF SPECTRUM OF 24 USERS WITH 512Kbs



ADDING THE 25th USER



ADDING THE 26th USER, ETC

FIG. 108

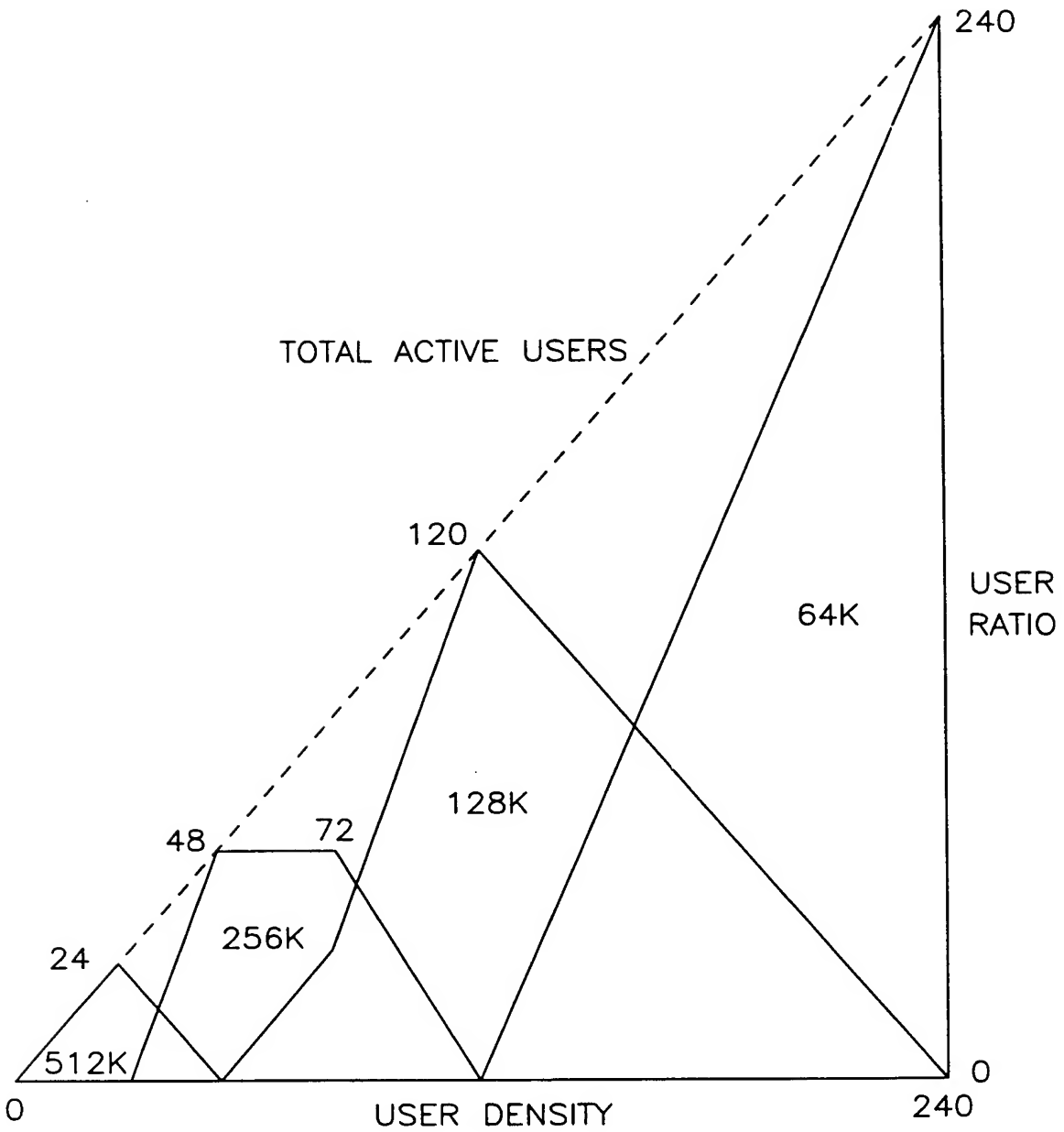


FIG. 109

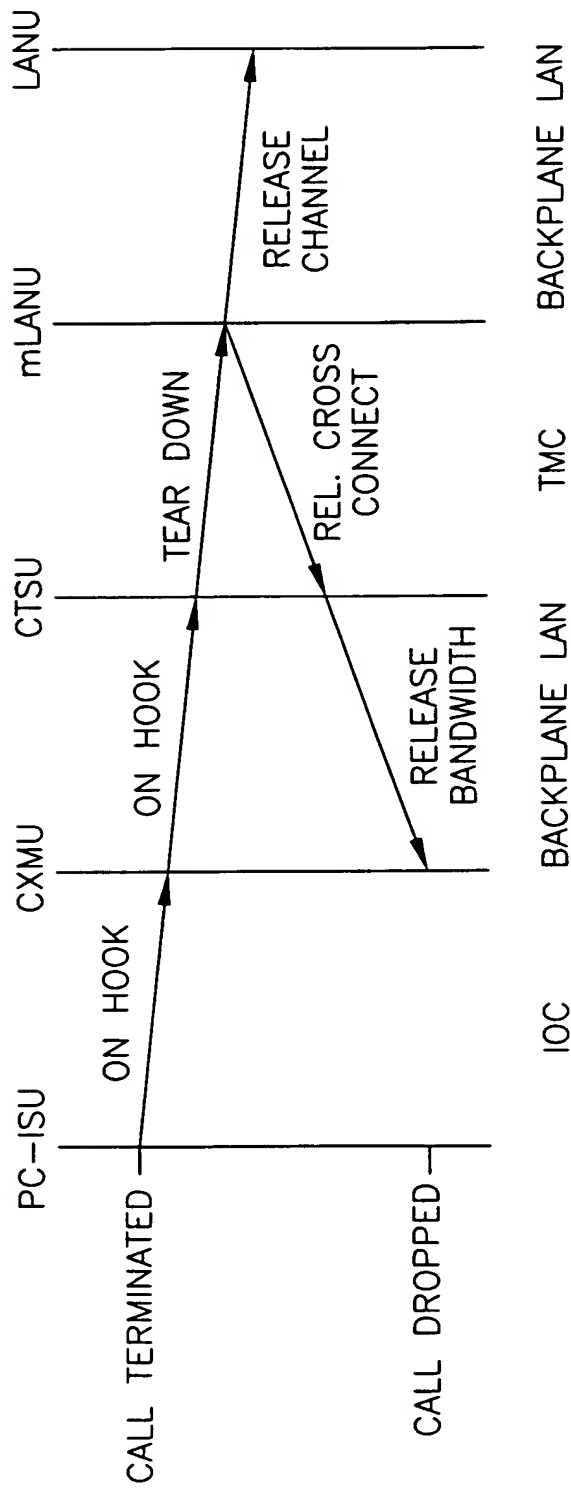


FIG. 110

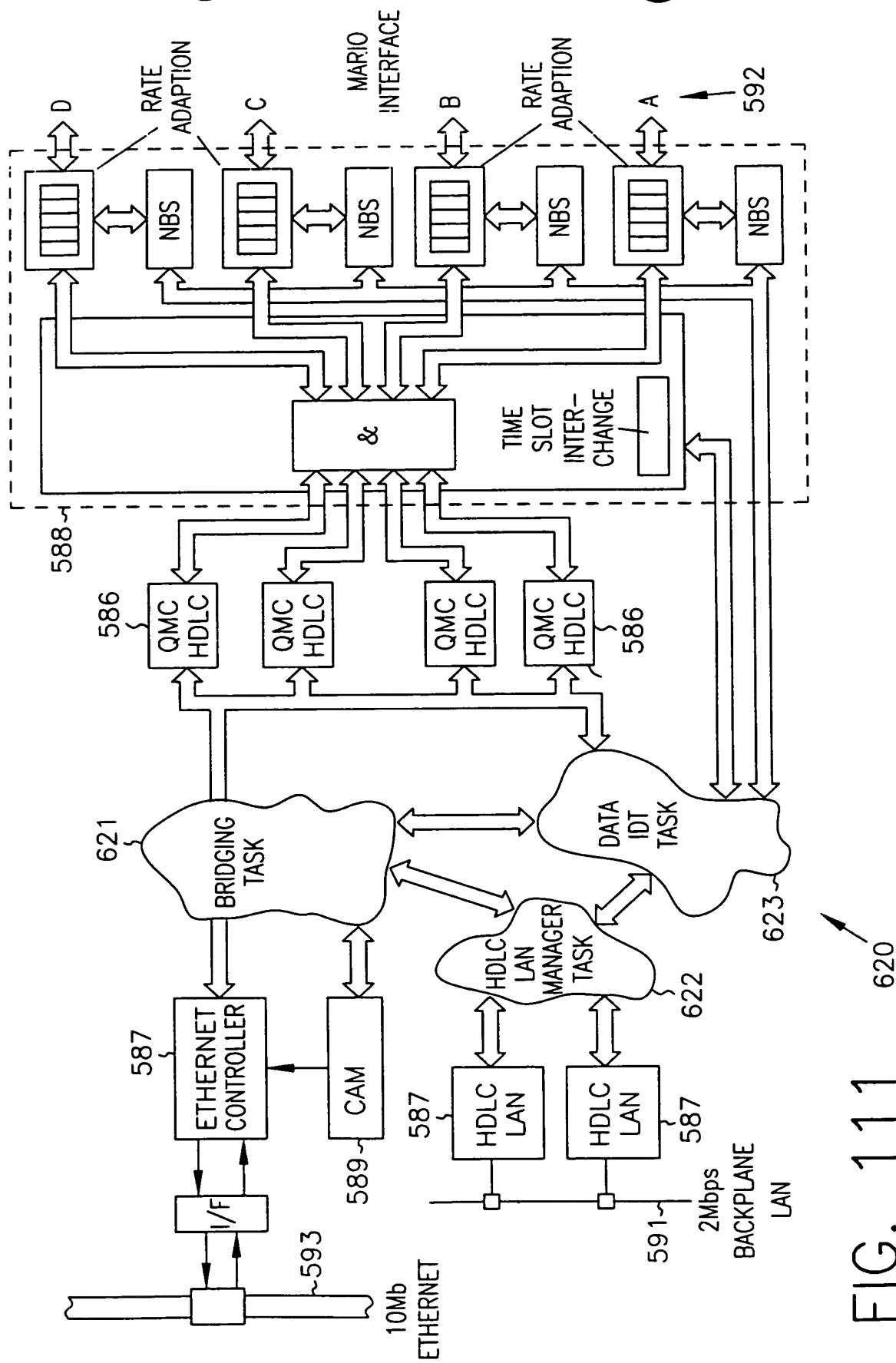


FIG. 10

620

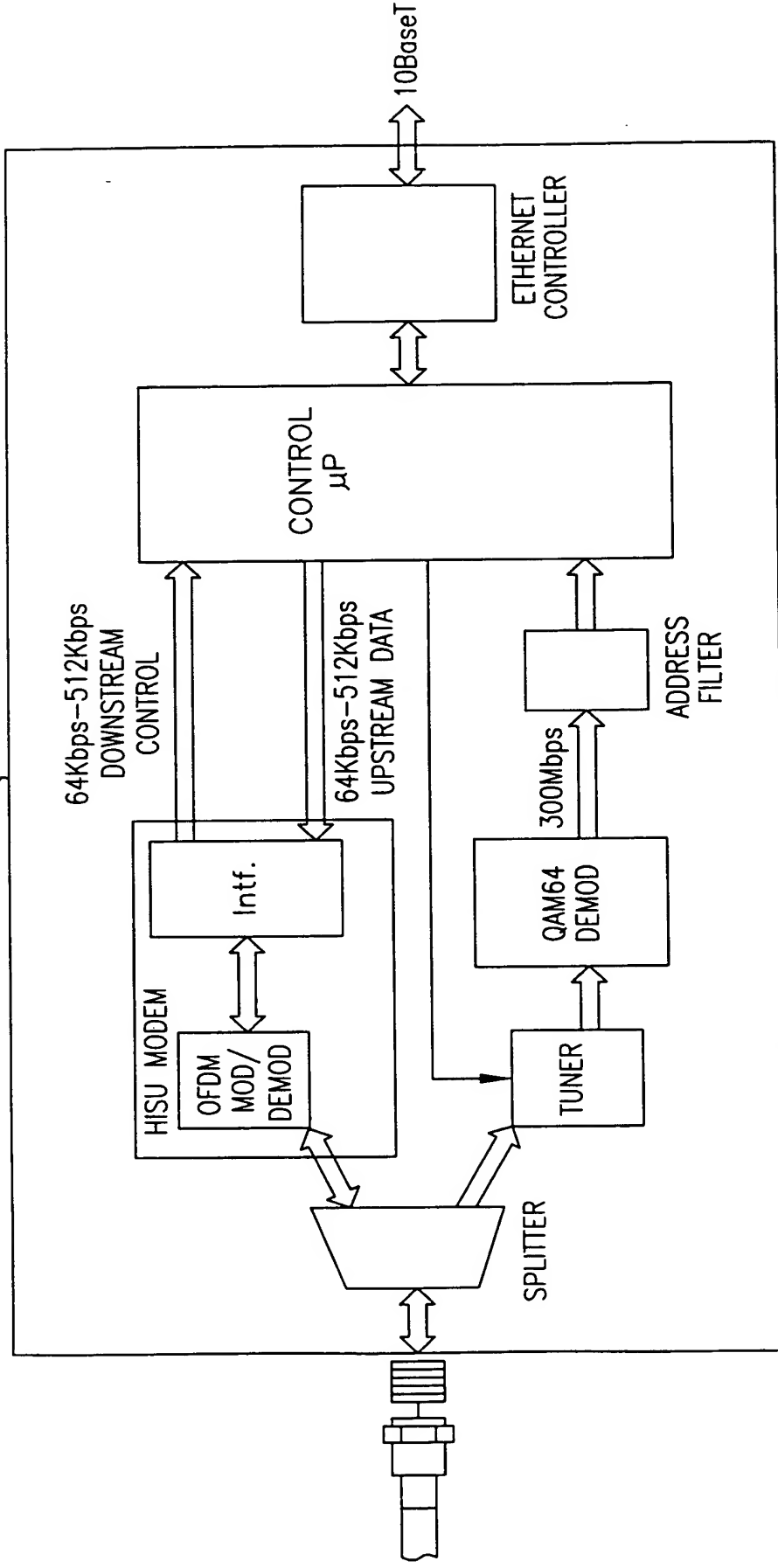


FIG. 112



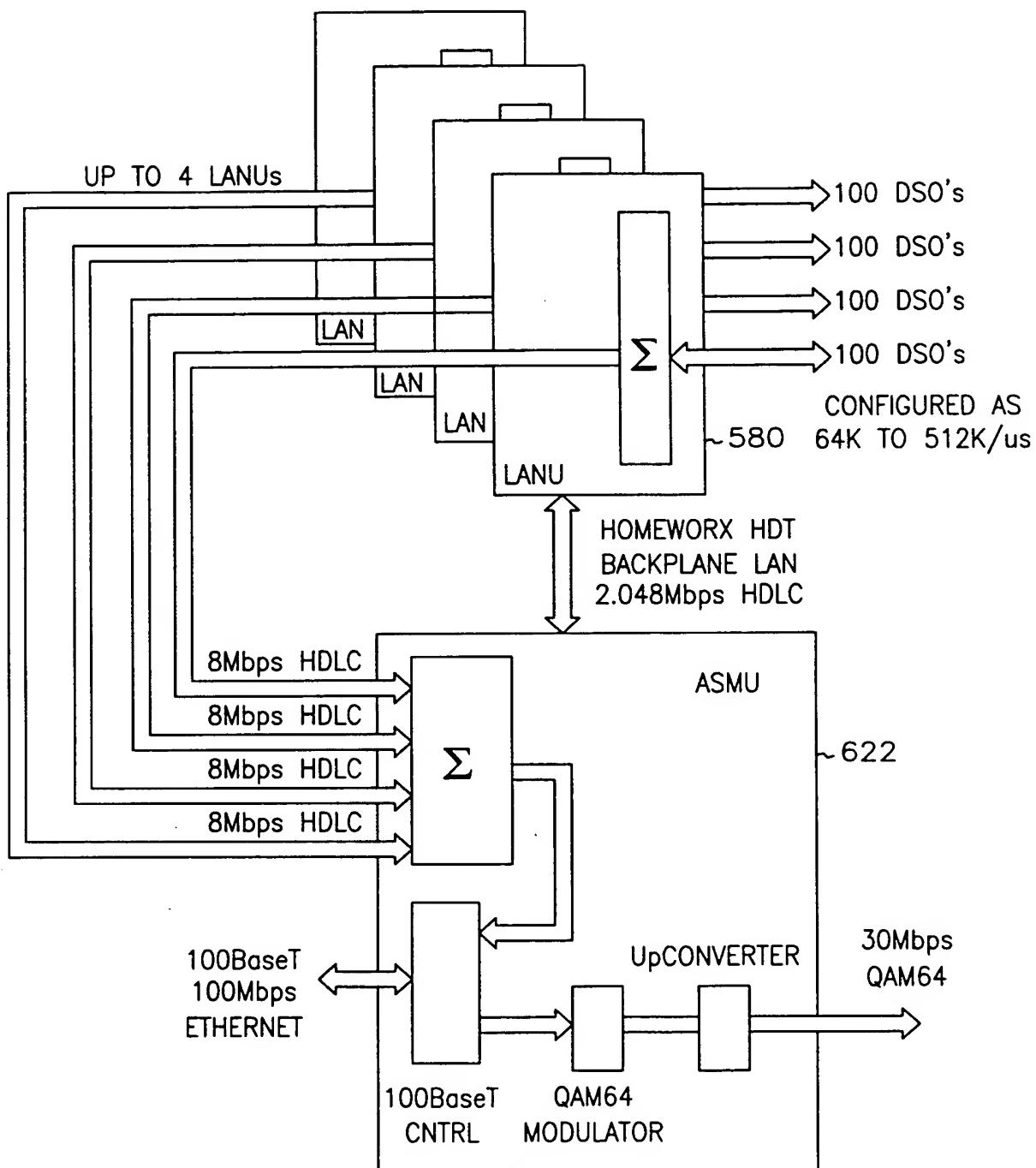


FIG. 113

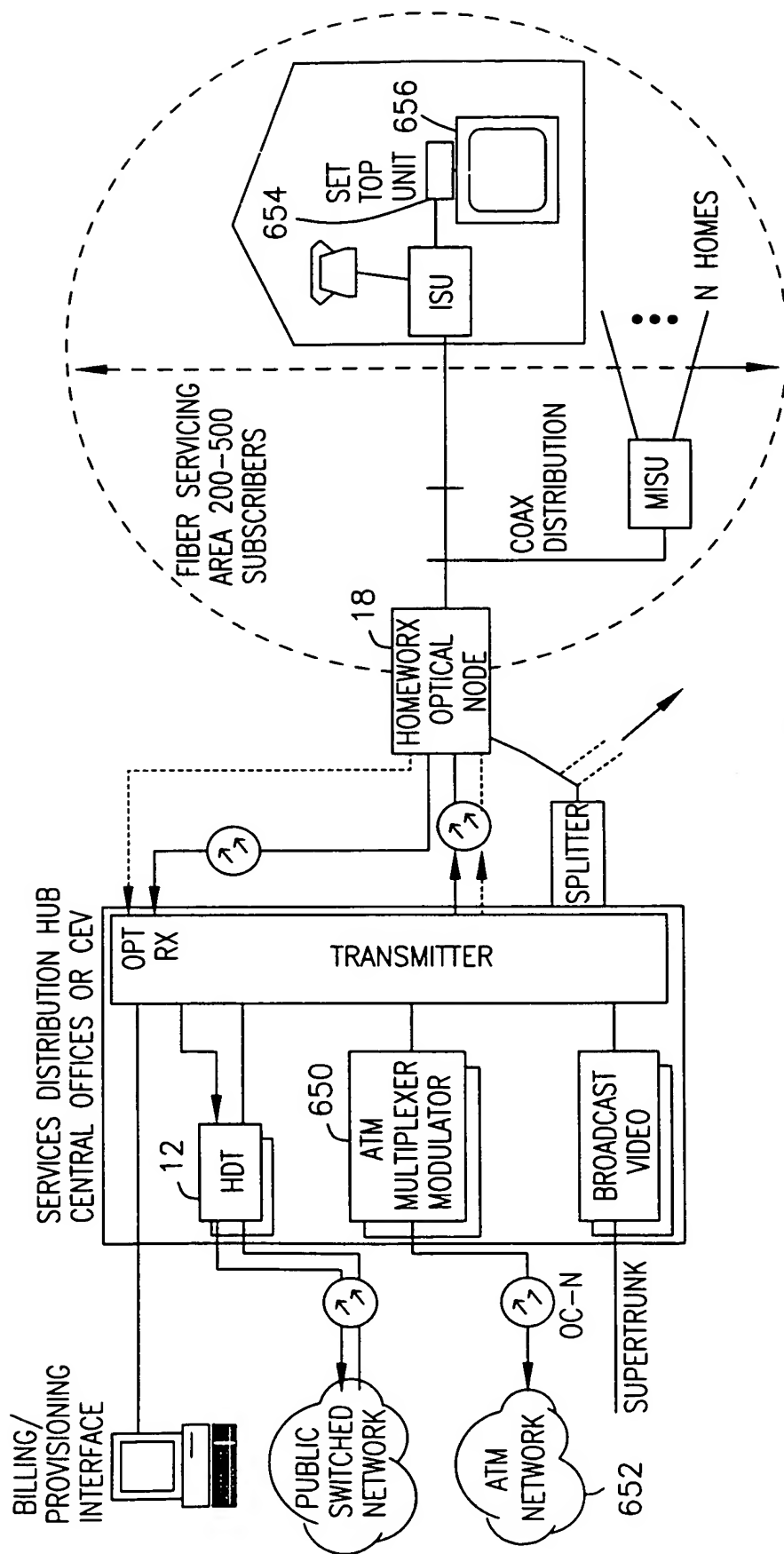


FIG. 114

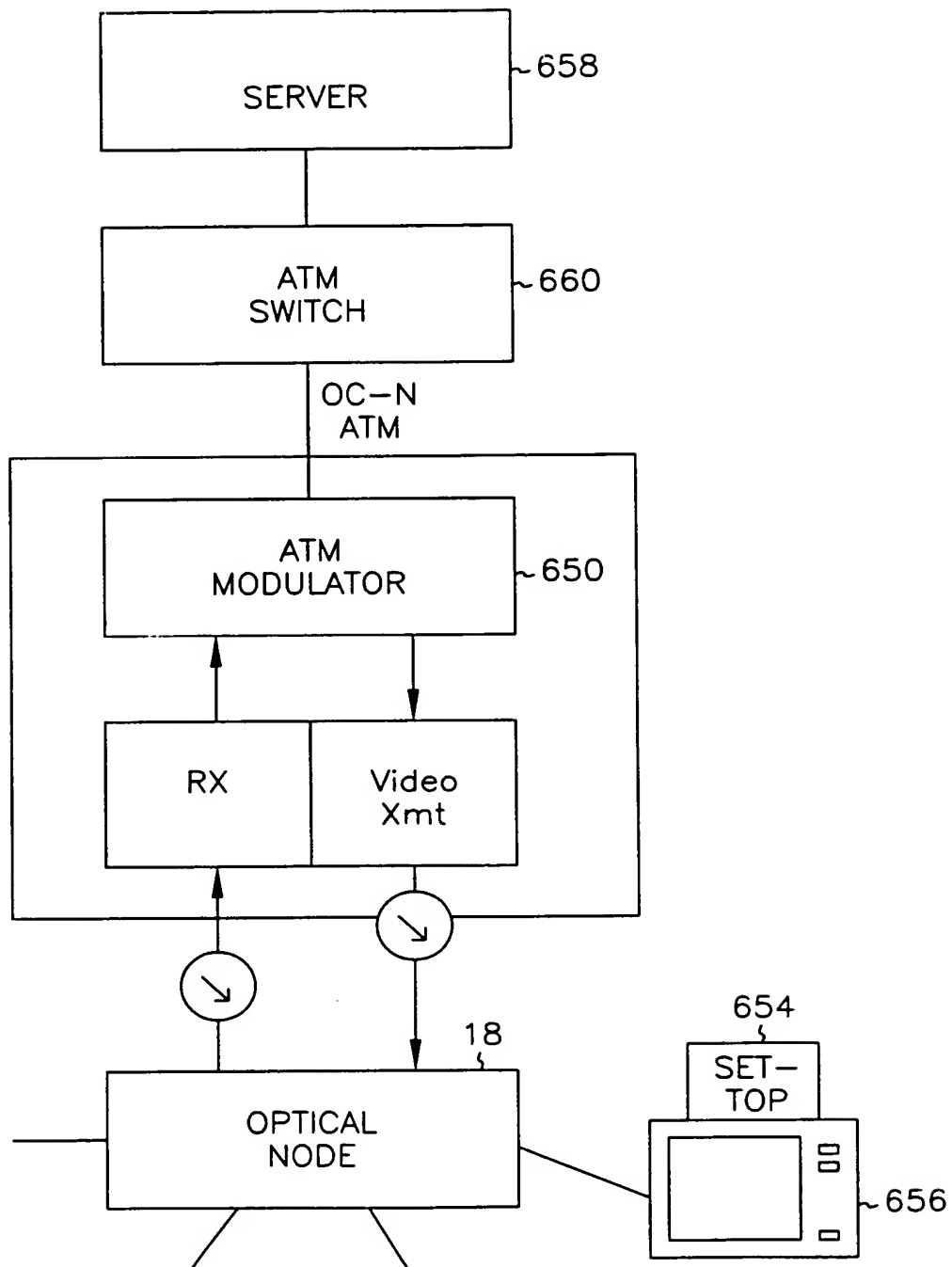


FIG. 115

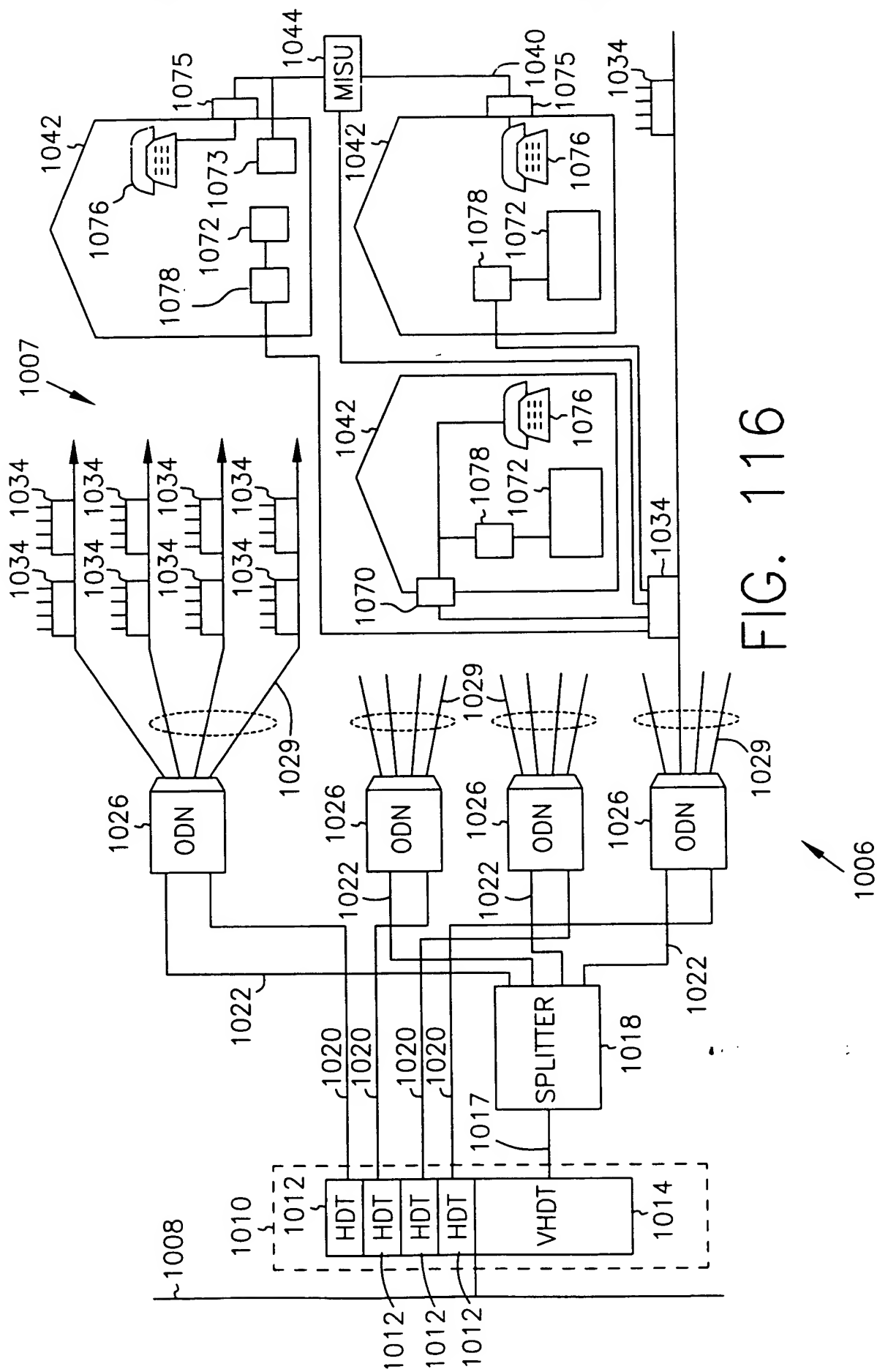


FIG. 116

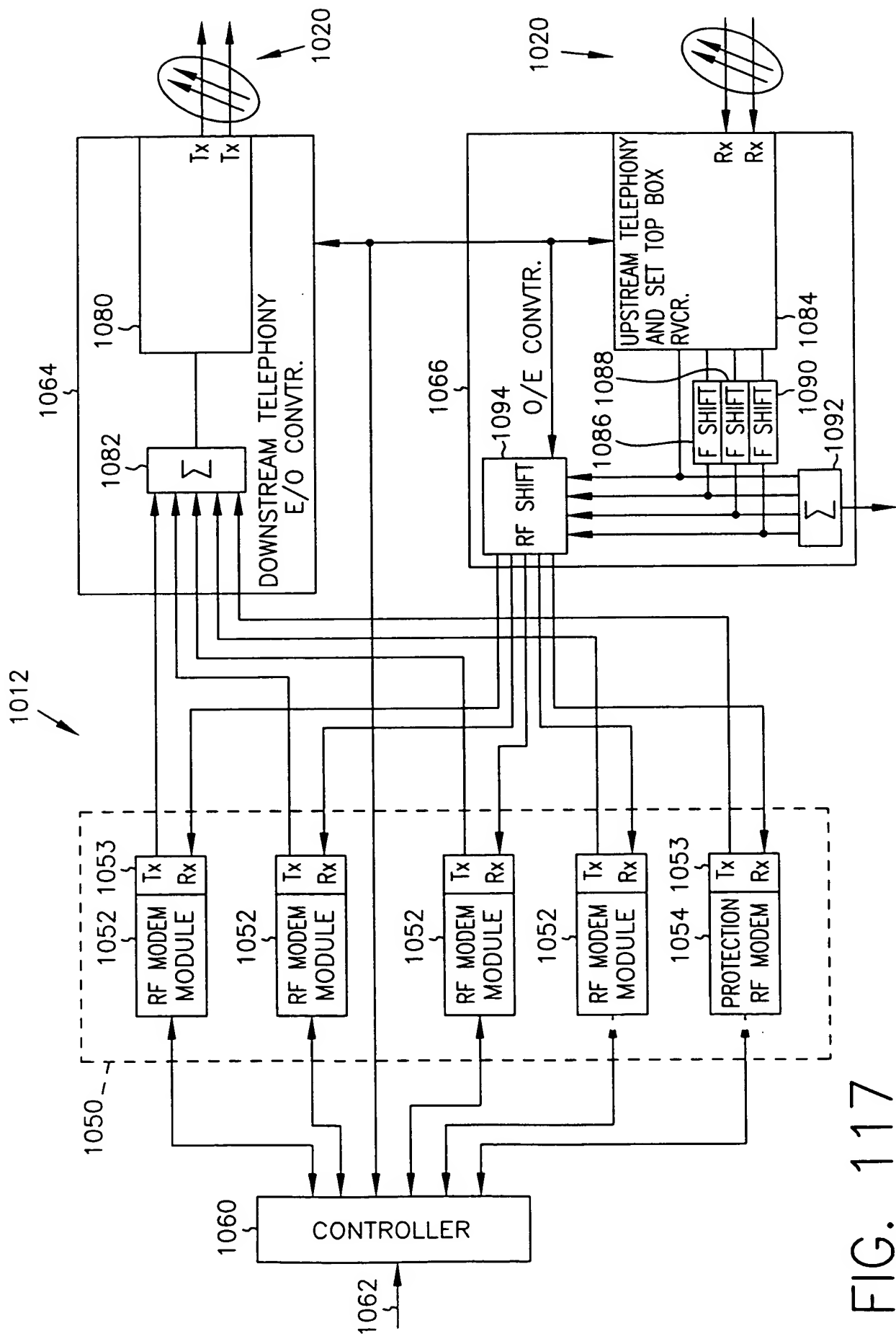


FIG. 117

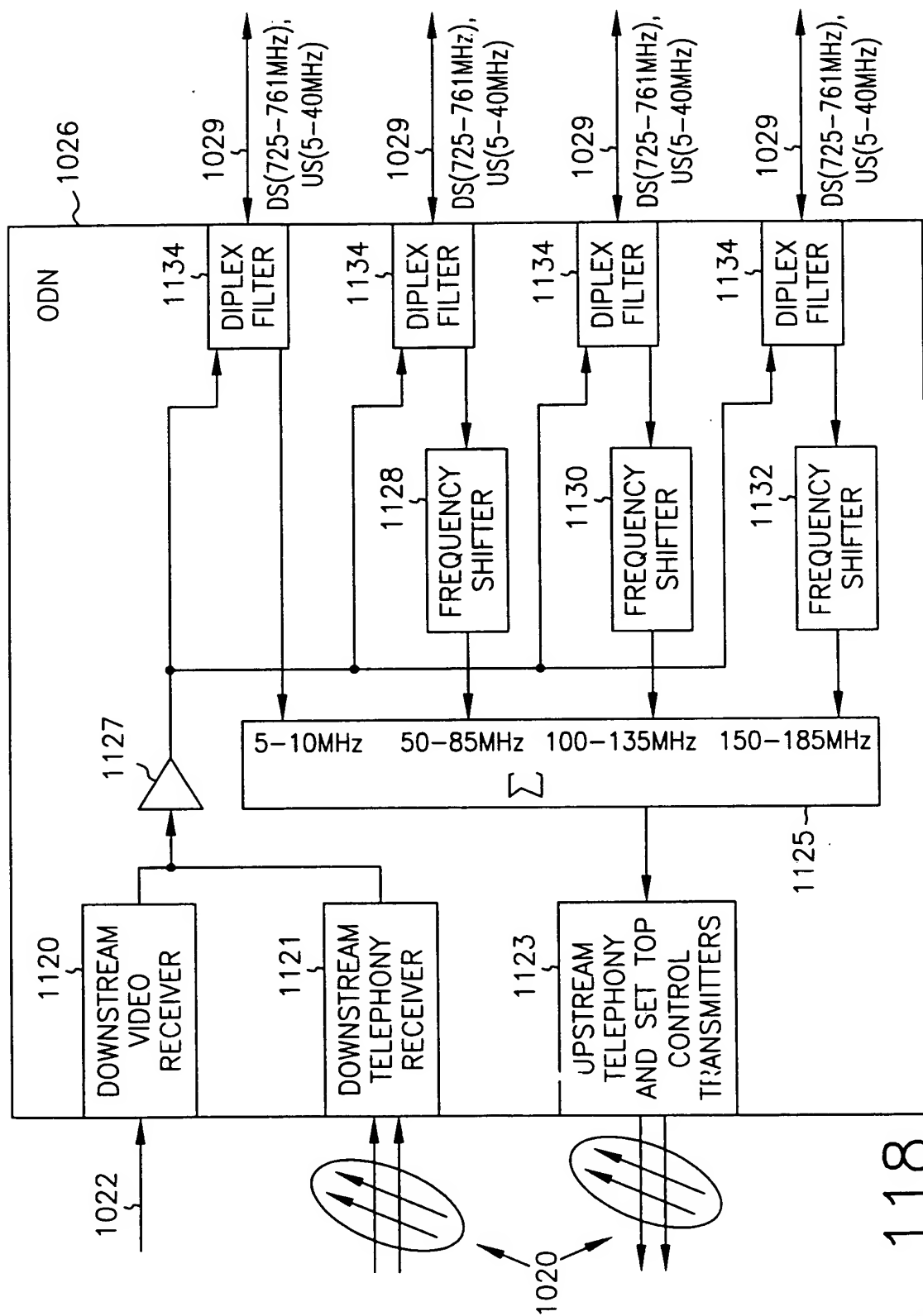


FIG. 118

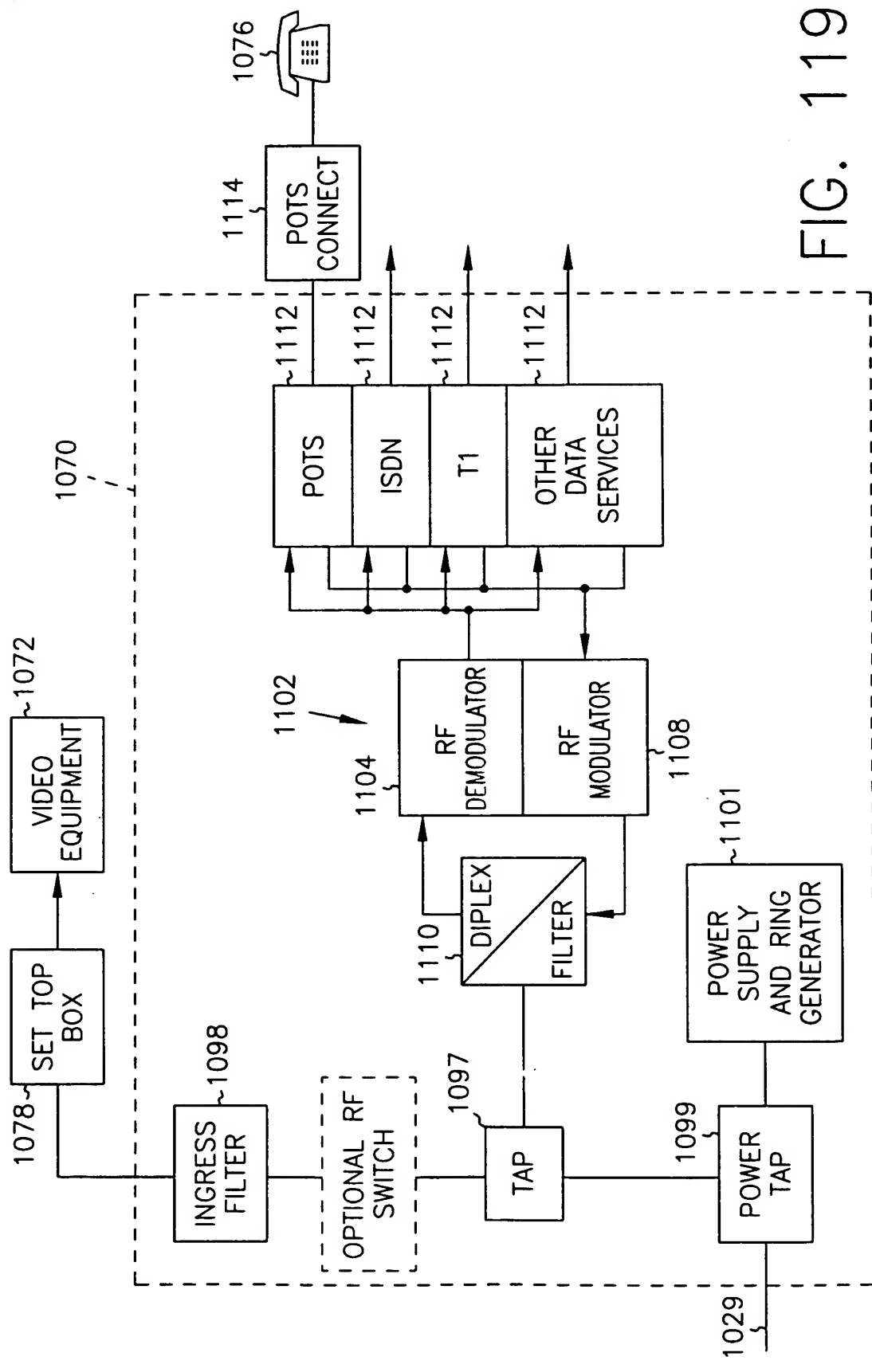


FIG. 119

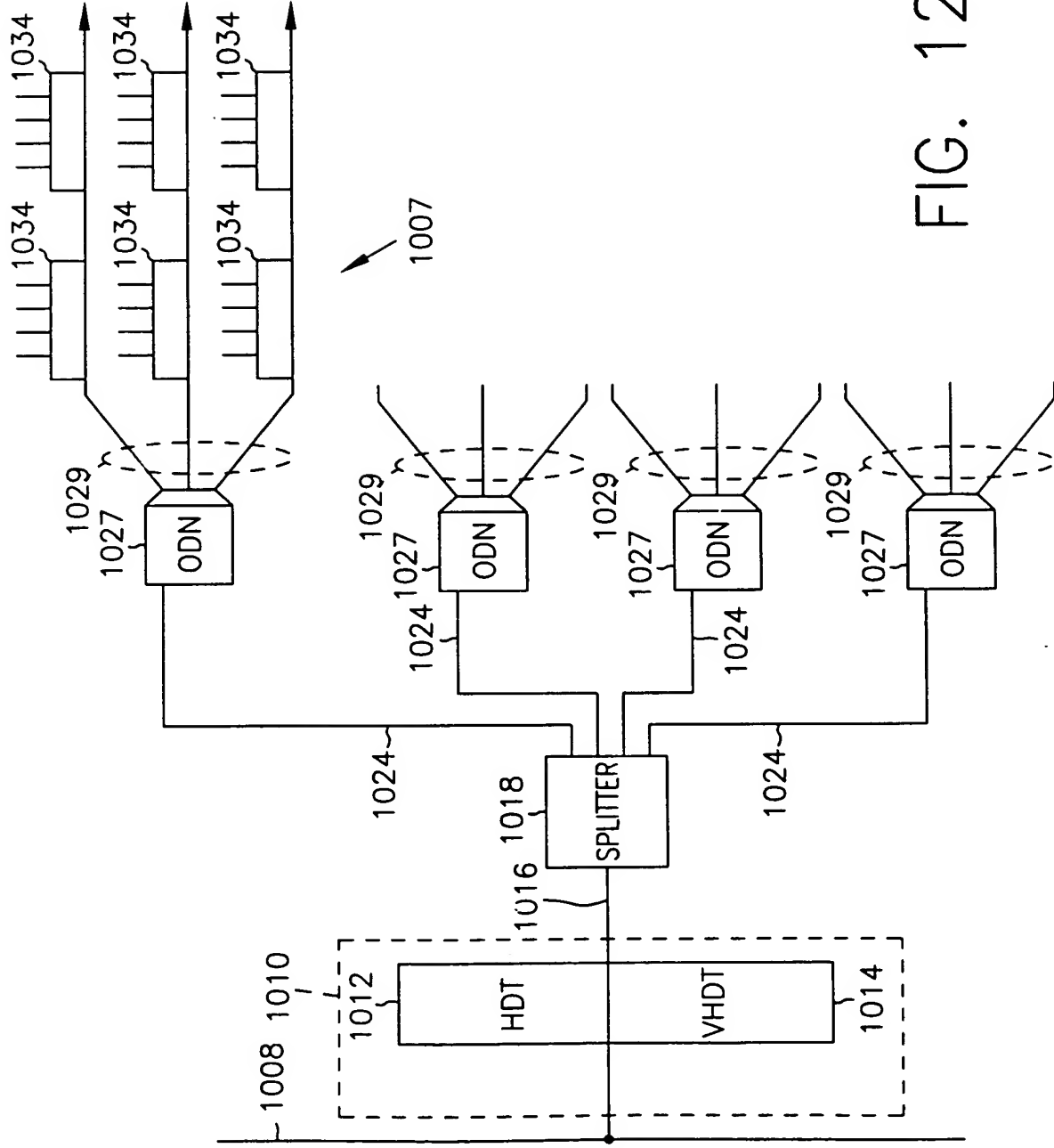


FIG. 120



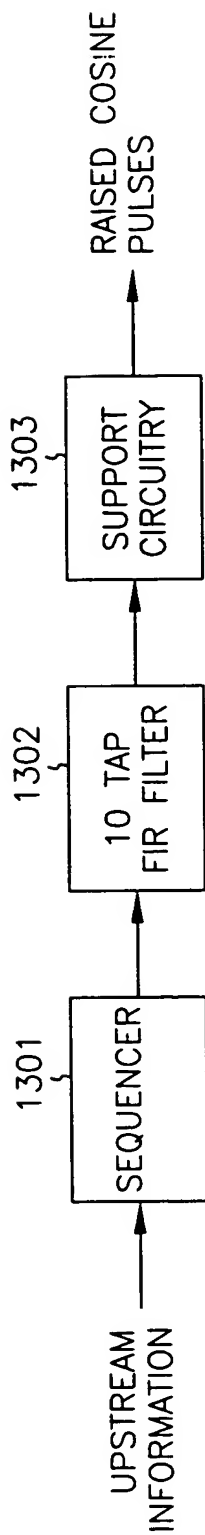


FIG. 121

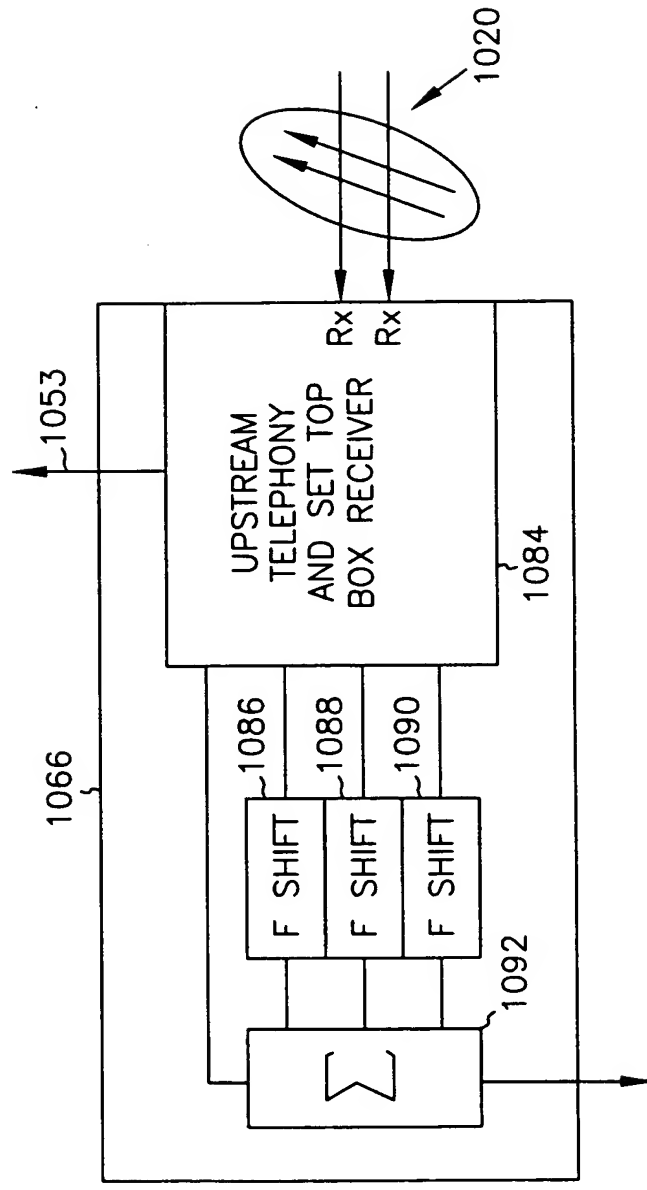


FIG. 122

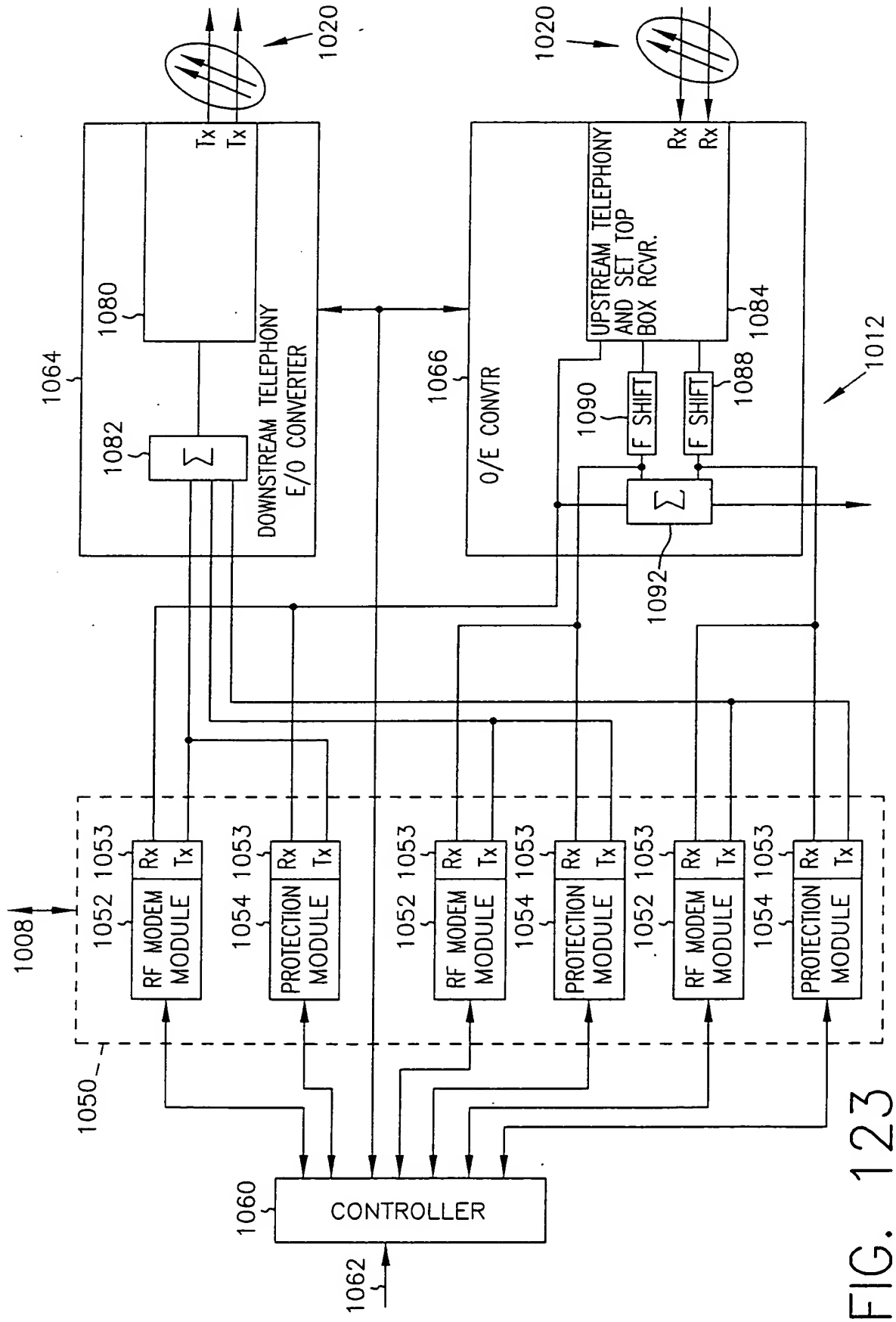


FIG. 123